

GREAT LAKES TECHNOCRAT

25c

Volume III

Number 4

25c

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PUBLISHED BY SECTION 1, R. D. 8741, TECHNOCRACY INC.

GREAT LAKES TECHNOCRAT

MAY-JUNE, 1945

VOL. III

NO. 4

WHOLE NO. 73

★ Illustrating the Futility of Price System Methods of Operation; Interpreting the Trend of Events from the Social Aspect of Science; and Presenting the Specifications for Total Victory in America's War Against Fascism. ★

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"Entered as second class matter June 2, 1943, at the Post Office at Chicago, Illinois,
under the Act of March 3, 1879."

Great Lakes Technocrat is a publication of Section 1, R. D. 8741. Technocracy Inc. Published bi-monthly at 843 Belmont Ave., Chicago 14, Illinois. Single Copies 25c. Subscription rates in U. S. A. \$2.50 for 12 issues, 6 issues, \$1.25; in Canada, \$2.75 and \$1.40. Bundle rates 10 to 100, 20 cents per copy; more than 100 copies, 19 cents each, add 10 percent to bundle rates in Canada; 5 percent discount for cash with order on bundle rates only. Special rate to libraries, anywhere in North America, \$1.00 for 6 issues. Continental Headquarters of Technocracy Inc. is at 155 E. 44th St., New York 17, N. Y. Send all correspondence and manuscripts and make all money payable to Great Lakes Technocrat, 843 Belmont Ave., Chicago 14, Illinois. Printed in U. S. A.

TECHNOCRACY LITERATURE MAGAZINES PAMPHLETS

TECHNOCRACY,
155 East 44th St., New York 17, N. Y. 15
cents, no subscriptions.

THE TECHNOCRAT,
8113 S. Vermont Ave., Los Angeles 44, Calif.
15 cents, \$1.50 for 12 issues.

NORTHWEST TECHNOCRAT,
813 Pine Street, Seattle 1, Wash., 15 cents,
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R. R. No. 2, Box 110, Fontana, Calif. 5 cents,
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TECHNOCRACY DIGEST

625 W. Pender Street

Vancouver, B. C., Canada

The Economic Pattern for Postwar America

By Sidney H. Kasper

Reprinted by Permission of *The Progressive*, November 27, 1944

MASS Unemployment, shortages in some critical fields and over-production in others, and a badly shaken price structure—these are the principal economic developments that Gunnar Myrdal, famed Swedish economist, predicts for postwar America.

Myrdal's painstaking survey of the United States economy is now widely consulted by Government and business economists. Entitled *Economic Developments and Prospects in America*, this survey was first read as a paper before the Economic Society of Sweden and has subsequently been circulated privately in this country as one of the ablest documents on postwar prospects for America. The internationally known head of the Swedish Postwar Planning Commission, Myrdal spent several years in the United States making a survey of social and economic conditions.

A severe slump—probably a culmination of the 1929-32 crisis—is in prospect within six months to three years after the war, Myrdal warns us. For agriculture he sees a continued production shortage and high prices for a few years after the close of the European phase of the war, but over-production and depression afterwards.

Dr. Myrdal is no superficial alarmist. He recently authored the definitive, profound work on the American Negro, *An American Dilemma* (incidentally, if you haven't read it, it's

past high time). He speaks from long acquaintance with the American scene and world economics, and this study is a welcome antidote to the newspaper and magazine advertisements of postwar gasless automobiles, ice-less refrigerators, insectless Summer homes, and big wages for all.

War Boom Analyzed

The study begins with a brief summary of pre-war conditions in this country. According to Myrdal, America's economy was in a seemingly perennial and irreparable stalemate from 1930 to 1940. When World War II broke out, the national income had not reached the level attained in 1929—even though our increasing population affords 500,000 workers each year, and our technical advances increased productivity by about 2½ percent a year.

Came the war, and with the impetus of Pearl Harbor the American economy jumped from stalemate to full employment. By the end of 1943 unemployment was down to a minimum, manpower rose from 55 to 64 millions, and production increased by 50 percent over the prewar level. Wages have risen considerably and corporation profits have zoomed to an all-time high.

Dr. Myrdal analyzes our war boom and finds that it resulted from (1) a heavy inflationary pressure initiated from underneath by Government de-

mand for war goods, and (2) severe compulsory regulations from above by means of which production and prices are directed and controlled centrally.

America's postwar problems depend upon what is going to happen when Government demand for war materials drops and then stops, and when compulsory regulations are relaxed and replaced by 'free enterprise.' Full employment depends on our ability to stabilize our present boom. A boom could conceivably be stabilized in a country with a centrally directed economy, such as the Communist and Nazi economies; but how can it be done in an unregulated capitalistic society where, it seems, every boom must have an end and lapse into depression?

With the Government supporting the war boom by purchasing war materials to the extent of half the national income, most people are looking forward to peace as a situation in which we will have no state regulation or state bureaucracy.

Herein, says Myrdal, is the economic dilemma of American postwar discussion.

Myrdal finds the American public highly — and unwarrantedly — optimistic regarding its chances to retain the high level of war production and business in peacetime. Underlying this optimism is the growing conviction that this is the job of private enterprise, and that the abolition of Government regulations is one of the prerequisites of the maintenance of full employment. Many businessmen

believe that full employment in the postwar world is the great test of private capitalism; at the same time, 80 percent of American workers who are now employed, according to a poll by *Fortune Magazine* are convinced that they will have jobs after the war.

Optimism and Politics

Why all this optimism? Apparently it is based on the super-successful war effort of American industry. Myrdal is careful to point out, however, that the war effort has been backed by an unlimited demand procured by unlimited purchasing power, but that the postwar economy will be faced with a *limited* demand, backed by *orthodox* financing.

Our optimism is also underlaid with political considerations. 'In a situation where people are demanding full employment, the most simple device for preventing radical views from spreading is to claim that free enterprise will do the job.' This is very dangerous, for 'if private enterprise should not prove capable of stabilizing full employment, discontent of the people with the system of private capitalism should certainly be all the greater, and radicalism would perhaps become really dangerous.'

The main features of peacetime conversion are thus outlined by Dr. Myrdal:

Release of Soldiers and Workers

Myrdal gives a minimum figure of 14.5 million soldiers and workers to be released after the war. Even with the most favorable assumptions, he says, the shifts during the conversion

period will comprise almost half of the American population. War production will be sliced tremendously; aircraft to five percent its present level, shipbuilding to 10 percent or less, machine tools to 10 percent (with its present capacity, this industry could supply a country the size of Italy with all the machine tools it needs within six weeks!), aluminum to 5 percent. Other industries which have been curtailed by the war—leather, glass, textiles, furniture—will need a lot of manpower, but even the highest forecast indicates a total industrial employment of 14 millions, compared with today's 18 millions and prewar's 10 millions.

Absorption of Workers

To estimate this process, Dr. Myrdal uses (and dissects) the widely publicized and soothing figures issued by Prof. Alvin H. Hansen of Harvard University, figures which have been used by many economists and writers to show that our postwar problem is really nothing to worry about. Prof. Hansen liquidates the 14½ million workers who will be released this way:

3 to 4 million . . . women, youth, and older workers, who will voluntarily retire from the labor market.

1 million . . . will return to agriculture.

2 to 3 million . . . to trade—if there is full employment (!).

3 million . . . service industries (domestics, etc.).

3 million . . . building trades (presupposing a building pro-

gram of about \$15 billion a year!).

Sounds good, doesn't it? But Dr. Myrdal mercilessly douses us and these figures with cold, icy logic. '*As a justification for peace optimism*,' he says, '*these calculations are worthless.*' The analysis is altogether static. It is not at all concerned with how the whole procedure is to be brought about—*by developments over a period of time . . . it presupposes full employment* and then studies the direction of demand for manpower required for realizing this supposition. If we assume that there will not be full employment, then the release of manpower in industry would be greater in all industries and the possibility of providing the unemployed with new jobs would be less everywhere. Then unemployment will arise. . . ."

Dr. Myrdal prefers the calculations made by S. Morris Livingston of the Bureau of Foreign and Domestic Commerce. Livingston analyzes the meaning of full employment as follows: In 1940 we had nine million unemployed and 46 million employed. Adding to this the 2½ million people who have and will have come of age from 1940 to 1946, subtracting the women, youth, and older workers who will retire, and figuring a peacetime army of two millions, we find that full employment in 1946 will mean an increase in employment over 1940 by 10 millions. The national income, with full employment, would amount to \$140 billion in 1948, compared with 1940's 97 billion dollars.

Livingston then proceeds to translate such full employment into concrete plans of production and investment for every branch of industry and product.

Mr. Livingston raises a danger signal: He is careful to point out that if 1946 production merely equals that of 1940 (a good year by 1930-1939 standards), unemployment will amount to 20 millions, as a result of increased productivity, new workers, and our 1940 figure of nine million unemployed. For those who seek a short work week as a solution to all employment ills, Livingston states that a work week of only 33 hours will still leave us with 13 million unemployed.

Concerning these figures, Dr. Myrdal poses two questions: (1) Do the plans of private enterprise add up to full employment, and (2) from what source will the needed purchasing power for full employment come when the Government no longer needs almost half of our income and production for war? In answer to the first, Myrdal states that numerous industrialists have made extensive calculations on the basis of Livingston's figures, regarding their own production and investments; when questioned about the part they would play in the general plan, *they have said that their own figures would run at a considerably lower level than was necessary for the fulfillment of a full employment program.* 'This means that the respective enterprisers merely believe in full employment in general, presuming that everyone else will act

. . . to produce full employment.' Such separate plans, he adds, will inevitably lead to slump, unemployment, further slump, further unemployment, etc.

In answer to the second question he says, 'Are the American enterprisers likely to stand up before the country and complain that the critical economic situation compels them to suggest a huge rise in wages in order to create a sufficient basis of purchasing power for production at a level of full employment? Such things do not happen in real life and hardly ever in the world of fiction.' To back up Dr. Myrdal's statement, one should read the statements of Robert M. Gayford of the National Manufacturers Association and Eric Johnston of the U. S. Chamber of Commerce in hearings before the WLB on the steel workers' request for higher wages. 'By not raising wages, and, even more, by reducing them, the foundation of purchasing power for full employment is withdrawn and the depression curve begins to move downward,' adds Myrdal.

Even if the miracle occurs and employers maintain or raise present wage levels, Myrdal doubts that the average American will increase his standard of living so as to absorb all the new products produced by full employment. Because of rigid habits of economy and unstable income, the American standard of living during the '30s did not keep pace with our increase in productivity. To keep the boom going we must, in a very short time, catch up with the rise in the standard of living which has been

accumulated during the past 15 years. Only a rapid rise in our standard of living will make for full employment. A gradual rise, fine during a recovery period, could not keep the business curve from nosing downwards.

The Principal Factors

Dr. Myrdal then takes up the favorable and unfavorable factors for the maintenance of boom conditions after the war. The favorable factors are:

1. Restocking of Inventories and Relief

The restoration of exhausted stocks to normal volume may amount to 10 billion dollars after the war. Further, there will be a great demand for American products by foreign countries. However, much of the demand will be for goods of which there will be a shortage in the United States, so that there will be a considerable reduction from our wartime exports of some 13 billion dollars.

2. Deferred Demand

Our greatest hopes are tied up with the extensive deferred demand, especially for durable goods. A recent survey indicates that 53 percent of the American public is ready to buy 2.3 billion dollars worth of cars, and almost one billion of household appliances, as soon as the war ends.

3. Liquid Savings

We have immense savings in cash or liquid form. However, whether or not they will immediately be converted to purchasing power is doubtful, depending on how much security the purchasers can be assured of. One striking fact constantly overlooked in popular discussion is that

if motor car production should be expanded to eight million a year, compared with the prewar peak of six million in 1937, the motor car industry would, nevertheless, be forced to lay off several hundred thousand workers.

4. Construction

We all expect lively building and construction activity after the war. Fifteen billion dollars would be the proper share of building under full employment conditions. Yet both housing and business construction will reach at peak only about seven billion dollars, leaving about eight billion dollars to be accounted for by Federal, state, and local building of hospitals, schools, etc. Myrdal laconically remarks 'However, the political prerequisites for the realization of such a program hardly exist in America.'

5. Unemployment Relief

Taking for granted that unemployment relief will be generous this time, Myrdal adds that we will have 15 million veterans who, with their relatives will dominate politics to the extent of making relief grants generous, thus increasing purchasing power.

6. Tapering Off of the War

The strong possibility that the war with Japan will continue a year or two after the defeat of Germany means that the gradual displacement of war economy will give conversion a badly needed pause and help to keep things going until V-Day. This is a favorable factor because price and production controls will be main-

tained, and because war expenditures will decline slowly instead of being choked off suddenly.

7. *Continuation of High Government Expenditures*

There seems to be general agreement that defense expenditures, interest on the Federal debt, pensions to veterans, extension of social insurance, relief, educational and health services, and housing costs will keep combined Federal and state expenditures up to about 30 billion dollars after the war, in contrast to pre-war's eight to nine billions.

8. *No Balanced Budget*

Says Dr. Myrdal: 'I dare make the prediction that, whatever party may be in control of Congress, there will not for a long time to come, not during this decade anyhow, be a balanced budget in America.' Why not? Because everyone is outbidding everyone else in urging reduction of taxes for the purpose of promoting investment and production.

* * *

The unfavorable factors are:

1. *Sharp Decline in Postwar Purchasing Power*

Unemployment caused by the conversion to peacetime production, plus the return to the normal work-week without overtime bonuses and the end of high wartime wages, will, Myrdal feels, cut the national income severely. True, many workers have built up nice nest-eggs during the war, but unemployment and lower wages will prevent such savings from being turned into purchasing power.

2. *Severe Regional Upsets*

Myrdal decries the tendency to talk

about 'overall situations.' Peace will undoubtedly leave us with many depressed areas in the South and on the West Coast, and in some places in the Middle West and New England. Many munitions plants and shipyards have been located in towns where there is no other industry and where the war industry has no peacetime counterpart. Perhaps half the workers in California alone will be released.

3. *Transfer of Labor*

The economic and social problem of transferring workers between industries and geographical locations will be tremendous. While great mobility of labor has always been an American tradition, we may find that our labor markets have become rather stable. Many who have migrated to the agreeable climate of the West Coast plan to stay there. Unemployment and unemployment relief will tend to keep labor immobile everywhere.

4. *'Too Little and Too Late' Planning*

'One of the most disturbing features of the lack of postwar economic planning, resulting from the unfortunate internal political conditions in America,' says Myrdal, 'is the lack of willingness to face the conversion problem and to take the steps necessary to solve it.'

5. *Labor-Business Conflict Over Wages*

While employers want wages lowered, workers who, for the most part, have kept their no-strike pledge, want wages unfrozen and pushed higher.

Add to this, says Myrdal, the restlessness engendered by the reconversion procedure, mass unemployment in war centers, and probably a confused political situation, and the result may be a 'radicalization' of labor opinion, actual conflicts on the labor front, and, unfortunately, even 'the race question . . . in its most terrifying form.' This cannot help depressing the business cycle.

6. Surplus War Supplies

Here some planning has been done. But the huge stocks of state-owned products which the War Department will have on hand at the end of the war—office equipment, blankets, cars, tools and foodstuffs—may amount to as much as 60 billion dollars. Relief and the needs of reconstructed Europe may offer what Myrdal calls 'opportunities for humanitarian dumping on a large scale under . . . UNRRA,' but even this won't suffice. The stocks will be disposed of, but hardly without a depressing effect upon business here.

7. Cancellation of Contracts

Contracts involving 100,000 principal concerns and 10 times as many sub-contractors, and amounting to over 75 billion dollars may well have to be cancelled and individual damages settled at war's end. The greater part of American industry will be involved. Which contracts and which contractors will be cut off? How much will be paid? Myrdal remarks, 'If the whole matter is not handled with great wisdom, the resulting disputes will keep busy for a long time a much larger number of American

lawyers than America is now encumbered with.'

8. Government-Owned Plants and Equipment

Most difficult of all is the problem of disposal of government-owned plants. Built at exceedingly high cost due to the war, and privately-operated, they amount to three-fourths of all factories built during the war and are valued at 15 billion dollars. Government-owned plants dominate certain fields; the Government thus controls 100 percent of America's total production of synthetic rubber and high-octane aircraft gas, 92 percent of magnesium production, 50 percent of the machine tool industry, and even 10 percent of the steel industry. These factories are solidly built and modernly equipped; about three-fourths of them can be converted to peacetime production. Shall the Government operate them in defiance of American tradition, or shall private industry buy them—at the high wartime cost?

Dr. Myrdal concludes that: 'It is to be expected that America after the war in Europe will experience a high degree of economic unrest. There will be shortages in certain fields and over-production in others. Price development will be uncertain and the price structure will be badly shattered. There will certainly be mass unemployment in large areas. . . .

'Yet it is possible that a "sellers' market" will be established so generally as to avoid an immediate post-war slump. But, probably within . . . half a year to three years this devel-

opment will change into a slump. This slump may turn out to be a culmination of the deflationary crisis of the early '20s and the gigantic crisis between 1929 and 1932.

'In the field of agriculture a continued shortage of production and very high prices are to be expected for a few years after the end of the European war. But thereafter an over-production crisis must be apprehended. This crisis may be very severe and can have an unfavorable influence on industrial activity in case the latter at the same time shows a tendency of passing into a state of decline and depression.'

He passes on to the international scene and says that the repercussion of American economic developments on the rest of the world will be serious. While America is the second largest importing country in the world, and while we were before the war the world's largest exporter, foreign trade plays a very subordinate role in our economic planning. In contrast to our attitude early in the war, our attitude now is rather chilly towards foreign trade; it is no longer regarded as being important for keep-

ing up employment in the United States.

However, while foreign loans and trade are unimportant to us, they are extremely important to the rest of the world. 'If America goes into a crisis and depression . . . loans as well as importation tend to drop considerably and the result will be that economic possibilities will deteriorate throughout the world. . . .'

How seriously Dr. Myrdal is concerned with the conversion problem is best expressed by his words to his own countrymen: ' . . . the making of postwar plans for Sweden is a much simpler proposition. Still we ought to be careful not to be too optimistic. We are also dependent on developments in the outside world . . . my studies of the economic situation in America and my reflections as to what a slump in America would mean to Sweden have made me feel very serious. There are plenty of reasons for care, lest, by too optimistic assumption, we make the task seem too easy for ourselves.'

Words that Americans, as well as Swedes, might take to heart as they behold the dawn of victory and the prospect of peace.

EDITOR'S NOTE TO ABOVE ARTICLE

Myrdal's study, as reviewed by Sidney H. Kasper, diagnoses the postwar case and says, in effect, that it is serious. So What? What does he suggest to alleviate suffering in that period? How will you maintain YOUR purchasing power? He cannot, of course, suggest any solution within the framework of the Price System, because in the Price System the continued existence of the status quo is taken for granted. The impact of technology on Purchasing Power is completely ignored or played down.

There is a solution, of course, to the postwar problem, but it will never be found within the framework of studies stemming from political, business, financial and labor factors. It can be found in an engineering design of social operations, by applying the scientific principle to our social order.

As The Twig Is Bent

By Samuel Kaplan

What Price Scarcity?

SCARCITY and abundance are contradictory terms. Neither can be discussed in relation to the other, except as comparatives in contradiction. Scarcity within America belongs to the past. Abundance is now available by the full use of our science and technology. The forked stick applied to the land never produced a surplus; the combine helped produce an abundance that led to depression.

All people in all climes live in accordance with the volume of their productive capacity. If it is high, their civilization is advanced; if it is low, their civilization is retarded. All the high sounding phrases of philosophy or politics are as nothing before this fact. Neither can this fact be altered by the musty utterances of Price System economists. These gentry can try to explain the status quo, or, more correctly, apologize for its maladjustments.

We can permit human cussedness to promote the will to ignorance or the will to self-destruction and we can set up these as whipping boys to conceal our self-interest; but we cannot deny the directives set up by environmental conditioning. The tree leans with the wind; we lean toward the source of our bread and butter. Every living being is in continuous reaction to the environment.

The Price System is geared to scarcity, and is never in equilibrium, even in its primitive state. The prayer by man for abundance becomes a curse upon its realization. Values, so-called, disappear under the threat of this abundance. This was the reason for the destruction of pigs, the plowing under of cotton and corn, the dumping of potatoes and fruits into the rivers, lakes and sea. Prices for these foods on the hoof or on the vine had to be maintained to avoid general bankruptcy and collapse. Obedience to this rule of the Price System condemned a third of our population to under-nourishment, poverty and despair. The Price System had to be propped up lest it collapse. The welfare of our people had to be a secondary consideration. Such is the train of thought imposed by past social conditioning.

Get Thee Behind Me, Abundance

This is not a new world. It is the same old world the human race has always known. The difference is in the things we have discovered, what we have done with our discoveries. The human race, when young, was frightened by its shadow; it is now frightened by its substance. It is because of our fears that we may regress into barbarism when the Price System fails. We are afraid of losing

our possessions, but refuse to visualize a state wherein all of these may become without pecuniary value and still remain available for the satisfaction of our needs. We insist that the future is hidden and dark, when the fact is that the correct road ahead is plain and bright.

We need not fear abundance. It has come about as the result of our science and technology, our great pro-

ductive capacity and our great operational skills. The Price System has outlived its usefulness and will go, as have other systems and mechanisms of the past.

We must prepare ourselves for a different order of magnitude in which different methods of production and distribution will be possible to free the abundance which is ours for the asking.

WAR IS NOT HELL FOR EVERYBODY

After three years of war in the Pacific American scrap metal sold by American business to Japan is still being used to kill American fighting men. In a study made for the Army and Navy Ordnance departments and the Office of Scientific Research and Development, the Battelle Memorial Institute, an industrial research organization at Columbus, Ohio, reached this conclusion 'The laboratory data show, from the presence of residuals, that the scrap which the United States sold to Japan before the war plays a considerable part in the munitions being used against us.' (As reported in the *Chicago Tribune*, March 2, 1945.

Editor's Note. The following quotation was written in A-4 *Technocracy Magazine*, in October, 1935, by Howard Scott:

Our debt merchants have been extremely diligent in the last few years in the profitable enterprise of supplying Japan with most of its oil, most of its nickel, cotton, pulpwood, sulphur and other necessary raw materials and manufactured products. . . . if America becomes involved in a war with Japan, we can console ourselves that we at least have given her something to remember us by—American materials will come back to us done up in Japanese wrappers that won't be so pleasant, in fact, they won't be bouquets.

'A survey made by the Milwaukee Assn. of Commerce postwar planning division has revealed that *during the war the large manufacturers become larger while the smaller ones become smaller.*

'It was found that Milwaukee manufacturers with over 500 employees had made employment gains averaging 52 percent, while gains in plants employing from 25 to 499 ranged from 4½ to 20½ percent. Firms with less than 25 employees *lost* an average of 14.7 percent. Concerns in the distributive trades and other commercial activities followed a similar pattern. Those with over 500 employees lost an average of (only) 6 percent, but firms with less than 25 employees reported an average loss of 28.7 percent.'—From Industry & Enterprise Help Small Business in the Chicago Region, Third quarterly report 1944, U. S. Dept. of Commerce Field Service.

'The dogmas of the quiet past are inadequate to the stormy present. The occasion is piled high with difficulty, and we must rise with the occasion. As our case is new, so must we think anew and act anew. We must disenthral ourselves, and then we shall save our country.'—Abraham Lincoln.

It's a Funny World

Some Points Walt Disney Overlooked

By Maurice Milton

Laugh and the World Laughs With You

THIS little adventure in the art of laughing is designed to help you understand America. True, this is a delicate time in our history to give lessons in how to laugh. Yet, it is necessary because no nation in the world will be faced with such opportunities for laughter as will be afforded post-war America.

This does not mean that at the war's end we will promptly enter the laughing period; obviously not. First, we will have to resume tilting with the multifarious pre-war social problems which we always failed to solve before. The problems have grown to such magnitude and complexity that they have coalesced and become one major problem. Now it can be stated unequivocally that no approach ever attempted in past history offers any hope for its solution.

America's problem is an entirely new problem and demands an entirely new solution. When this solution is in full application, no people in history will have experienced what we Americans will. What will that experience be like? Well, now, that's what we want to go into. But, first, you'll have to take a lesson in how to laugh.

What you must accomplish in learning how to laugh about America's social problem is to achieve a detached attitude toward folkways, mores, customs and taboos, toward Price System propaganda of all types, and finally toward reason, logic and discussion. Yes, you will learn to laugh at these, too, strange as it may seem now.

You may be frightened by all this at first. When the realization sinks in that your survival depends on it, you will lose that fear. It will seem impossible only in spasms which will recur. But these recurrences will diminish in intensity and finally cease altogether. You will then be able to understand and analyze your environment, and you will laugh.

King of the Animal Kingdom

In all of the 7,000 years of man's recorded existence, he has set up societies because by so doing he increased his survival probabilities. This is the story boiled down to one sentence. Man came into what we call society as a predatory animal. During the last 7,000 years he has been doggedly trying to hypnotize himself into the belief that he entered as a social creature, or, at the very least has become one down through the ages. To convince himself, he devel-

oped the escape mechanisms of reason, logic and discussion. This is our first laugh.

What we must acknowledge to our subjective selves is that this was because of the fancied necessity of escaping from the reality of our animal-like natures. But what has happened in America in the last 150 years has completely annihilated this former escape necessity. Today we find ourselves faced with the new and more pressing necessity of giving up completely the former necessity. Sounds silly, doesn't it? Well, who cares how it sounds; that's the way it is. Do we dictate to our environment or does our environment dictate to us?

Ours is the first society in all history to find itself faced with the reality that the survival of all now hinges upon the proper functioning of the social mechanism upon which all are dependent. The survival of this mechanism, in turn, hinges upon the co-ordinated functioning of the many. Ours is the first technological society in history. That is why we are the first to be faced with that necessity.

Didn't any one ever call your attention to this condition before? Well, where could you have expected to have it called to your attention? After all, most of us have been denied any knowledge of our physical history. If you will investigate, you will find that Technocracy has been calling attention to it since 1933.

To understand all this is to know in which direction this Continent is most probably going. As the tech-

nological progression of our social mechanism continues, the probability of continuing the progression demands more and more coordinated and designed direction. This necessity is dictated by the physical requirements, not by the men at the controls.

Man learns by example and by doing. These are the only ways we learn anything. We are involved today in the first total war in history. Total war means the total application of the national technology to the prime necessity of supplying the fighting front, as well as the civilian requirements at home.

Science Is A Polyhedron

Lt. General Brehon Somervell, as Chief of the Army Service Forces, directs the production and distribution of services and supplies for 11,000,000 American service men and women, under every conceivable condition all over the world. This job is accomplished by the application of technological principles to logistics. This third great principle of war, called logistics, is the science of having the right thing in the right place at the right time. That is an engineering achievement.

General Somervell's function is to receive raw recruits (Service Commands); feed, clothe and house the Army (Quartermaster); build the camps, roads and bridges (Construction and Engineers); pay off the troops (Finance); police and pass judgment (Provost Marshal and Judge

Advocate); provide the weapons for warfare and service them, often under fire (Ordnance); run the communications (Signal Corps); move the troops and supplies (Transportation); care for the wounded (Surgeon General); minister to the soul (Chaplains); and in addition direct the function of over a million civilian personnel.

If it didn't sink in the first time, read the last paragraph over again, five or six times. And, remember, logistics is a branch of science; reason, logic and discussion are not.

Lt. General Somervell is a Staff General, not a Field General. Everything done in the field in modern technological war is dependent upon the functional operations under his direction. And, in the magnitude of this operation can be found no parallel in history. From the social standpoint, the importance lies not in who performs this function, but in the fact that the function must be adequately performed. The security of everything hinges upon it. The comparison of the function of any business executive to this operation is by relationship of no measurable significance. Yet our Congress fought the appointment of Somervell to the rank of General. It was finally granted due to the demands of the Chief of Staff, General George Marshall. Funny, isn't it?

For the past 25 years the capacity of American technology to produce goods and services has been going steadily upward. At the same time, man-hours of labor required in that production per unit have been going

steadily downward. Since 1939 America has about doubled its plant capacity to produce with an attendant reduction in man-hours. Since man-hours are the equivalent of purchasing power, this means that as we produce more, through technological methods, we are less and less able to distribute that very production. Funny, isn't it?

We are now at that point in the progression of technology where we, as a nation, are capable of producing and distributing to every citizen more than he, or she, is physically capable of consuming. To do this, we need less than 2 percent of the employable population's muscular energy. This is contrary to all the economic principles of the past. Yet we continue our futile efforts to apply 'principles' set forth by the classical economists to problems that had not yet arisen in their day. It is as though we permitted the 'principles' of alchemy to be applied to the development of synthetic rubber, or penicillin. Funny, isn't it?

Better Laugh Than Be Sorry

It is this particular set of paradoxical physical conditions that will shortly compel a mass movement in America. It will be the first social mass movement in history. You will most probably be a part of that mass movement, whether you know it at this moment or not. This movement will demand designed, national, technological control because the only alternative is national suicide. Between the two, there is really not

much choice, is there? Funny, isn't it?

The only Organization even calling attention to the necessity for this designed direction is *Technocracy Inc.* This type of national direction is the antithesis of dictatorship. Since you will most probably be a part of that mass movement, why not let Technocracy show you the who, what, when and where, so that you may then understand the why? It is really interesting, and, besides, your survival demands it. You will most probably understand it eventually through compulsion. Why not now, voluntarily?

There is no 'out' for you in the postwar plans of any minority pressure group. They all have an axe to grind. They are all picayunish. No such group can permit itself to understand America's social problem. It

would mean the end of their racket if they did. The only answer is Total Conscription of Men, Machines, Materiel and Money, with National Service from All and Profits to None. How can you expect any pressure group to endorse the liquidation of its own racket? Funny, isn't it?

If you study Technocracy, you will understand. Regardless of your past interests, you will then realize what your new and more pressing interests are. These will be based upon the general welfare of every last American as opposed to the welfare of anything less than the whole. It is a new concept of citizenship you will learn. And when you have learned it, boy, will you laugh at the old!

For more lessons on how to laugh, join that hardy band of pioneers on the frontiers of the New America, the members of *Technocracy Inc.*

Investigate, unite and operate!

ALL MIXED UP AND NO PLACE TO GO

'If education continues to emphasize the individual, it should not be surprising that we would have race and religious riots and a great wave of shop-lifting, which has become one of the greatest curses in all communities,' stated Dr. William J. Byron, professor of sociology at Northwestern University, before the Cook County Teachers Institute at the Morrison Hotel. (As reported in the *Chicago Daily News*, April 7, 1945.)

'I come back to the fact that we are living in a mixed and divided life. We are pulled in opposite directions. We have not as yet a philosophy that is modern in other than a chronological sense. We do not have as yet an educational or any other

social institution that is not a mixture of opposed elements. Divisions between methods and conclusions in natural science and those prevailing in morals and religion is a serious matter, from whatever angle it may be regarded. It means a society that is not unified in its most important concerns.'—John Dewey, educator, in *Fortune* magazine, August 1944.

There are more than 5,000 persons currently attending seminaries, preparing for careers as clergymen in the city of Chicago. (Dale Harrison in his column in the *Chicago Sun*, March 5, 1945.)

176 murder cases in Chicago in 1944 resulted in one death penalty.

Where Are My Children?

By Olive Applegate

Americans are in a struggle to protect their precious Continental resources, yet seem at a loss to insure the future of their most treasured possession, American youth.

'These Are My Jewels'

JUVENILE crime which was sweeping the country before the war, remains unchecked and has reached such proportions that it is hardly possible to pick up a newspaper today without encountering startling episodes of maladjusted, thrill-seeking children.

Even prior to our entry into World War II, we had won the name of having the greatest number of young criminals in any modern nation. We had acquired this record while at the same time were in possession of the greatest portion of the world's resources, productive power, and trained teachers and educators. Our growing criminal problem, however, is only one of many indications of our failure to apply our great wealth to solve social and economic problems. America is still reaping bitter payment for negligence in the depression years, when millions of our young people were permitted to roam the streets unwanted, and apparently forgotten by society.

Children, teeth rotting for lack of

care, legs bent and crooked for lack of vitamins, lived a painful existence in hot, smelly slums. The law of survival reigned supreme in these fetid torture holes, where mere infants learned the code of the age 'Chisel the other guy, or he'll chisel you.' Out of *this* environment, did we actually expect to bring strong, competent, human beings? The large percentage of Army inductees declared unfit for service, and our rising delinquency rate, has proved otherwise.

Because of inefficiency and lack of foresight, factors which brought about our delinquent problems have increased alarmingly. Crowded housing conditions in defense areas, lack of proper play facilities, increasing birth rate, absorption of mothers and supervisors into war industries, lack of security, plus the general national confusion, all add up to a serious criminal problem among minor children.

Citizens who are concerned with national welfare and youth problems are sick at heart to see the war effort hampered and children growing into cripples and criminals as the result of inefficiency, indecision and greed.

Youth Foremost

Although we are in a major struggle to stamp out fascism abroad, we see individuals and groups at home striving to better themselves at the expense of the nation and the lives

of our fighting men. Large corporations go unpunished for admitted acts of sabotage; labor strikes hold up vital materials; business heads insist upon government guarantee of profits to manufacture or move war goods; overlapping government authority, red tape, political disagreements and slow moving policies form a tangle of interferences in our production lines; widespread black markets exist in every field; disabled soldiers, who have seen the real hell of war, and their families have been subjects for neglect. We attempt to drag our youth through this muck of indifference, intrigue and greed to mature, worthwhile citizenship. What will the end product be?

Many citizens ponder this question. Those who think in terms of human life and national welfare rather than in terms of political titles or profit have accepted Technocracy's proposals for Total Conscription as the only solution to our pressing youth problems and as a means to quick victory.

Daily, more citizens are hearing of Technocracy's Victory Program of Total Conscription, with National Service from All and Profits to None, and are investigating it. They refuse to stand idly by while their youth and their future is gambled

in a national game of political and business survival. They are demanding that the Government put their youth foremost. They are demanding proper housing facilities, schools, parks, nurseries, clinics, recreational centers, etc. They are demanding teachers and supervisors so that their children may be adequately cared for and educated. They are demanding this, and more, although they know that it means the drafting of workers and the training of new personnel and a new alignment of functions on a national scale.

And they are not cowed by the cry of 'dictatorship' which arises with every effort to coordinate war activities. Drafting of citizens to serve their country on the home front does not seem a severe measure when men are being drafted daily to die on the fighting front.

They are not playing favorites. They insist that machines, materiel and money, as well as labor be drafted for this all-important project.

Security and worthwhile objectives for their children and for themselves, the removal of profit as a motive for victory—these are the things which thoughtful citizens demand today.

Total Conscription is the only answer!

'The pioneer and bearer of a new evangel is always up against an inchoate mass, educable only when miserable, and, when prosperous too proud to learn.' Frederick Soddy in the foreword to *The Frustration of Science*.

'In times like the present, men should utter nothing for which they should not willingly be responsible through time and eternity.'

Abraham Lincoln in 1861, as quoted in *Radio News Magazine*, January 1945.

The Mathematics of Chiseling

You Can't Change 'Human Nature?'

By The Peripatetic Technocrat

The dictionary says that a number is a symbol used in arranging or classifying quantities. This sounds plain and simple enough. But it is neither. Or, perhaps, it is too plain and simple for its full meaning to be readily grasped. 'Arranging and classifying quantities.' It is surprising how much territory those four words cover. They even invade the sanctum of so-called human nature; the constitutional 'right' of every American to chisel his fellowman. Will 'freemen' stand for this? Now is the time for all good chiselers to unite for chaos, lest they find themselves 'arranged' down toward the bottom of the list.

'Go, View Your Father's Bones'

FAR be it from this observer to pose as one who has anything but a faint understanding of mathematics. From time to time, he has been deluded to the contrary, temporarily, by the advertisements of publishers. These promise to put one on intimate terms with the queen of the sciences, in painless lessons, so to speak. But, *Mathematics For The Millions* only resulted in a million headaches; while a simple treatise like *Mathematics Made Plain* almost brought on nightmares.

As dumb as he is, however, at computing formulas and equations, this observer has enough sense to know that 4 comes after 3, 27 follows 26 and 95 can't be anywhere else but right after 94, etc. All the probabilities indicate that this serial nature of the order of number progression proceeds with unbroken continuity from zero to infinity. In other words,

27 never comes before 26, and 95 can't push in ahead of 94. It just wouldn't make sense. Besides, you couldn't use figures for anything if they jumped all over the place.

The average layman would hardly suspect that numbers have anything to do with anything else except more numbers. That is, that the only possible function of numbers is their relation to other numbers. Of course, there is the old saying that 'figures never lie but liars sometimes figure.' But then, bankers, business men and politicians do a lot of figuring and they are not all liars. At least, not all the time. So, the validity of that portion of our folklore, hinting at illicit variations in the function of numbers is questionable. So much for folklore. Now, let's get down to facts.

It is a well-known fact that engineers use numbers and do a lot of figuring with them. No engineer worth his salt would attempt to fi-

nagle around with his decimal points. He knows that the only result would be chaos on the job. For physical laws can't be violated. So, the engineer goes along his well-defined path finding the facts and arranging and classifying the quantities involved. We venture to guess, however, that but few engineers and scientists have straightened up out of their rut long enough to take a good long look around at society and ask themselves this question. Is it possible to apply numbers to social problems? A few of them have, and their work stands out like a beacon light for the more faint-hearted.

Most of the scientific gentlemen, however, are just like all other Americans when it comes to social problems. They find a ready escape from the social obligation to do anything about these problems in the age-old, hoary myth that 'You can't change human nature.' If any abstract concept has served the Price System well, this one has.

Any Red Herrings Today?

According to its proponents, it was written on creation day that mankind shall be grouped into two classes, masters and servants, riders and horses, chiselers and suckers. The rule is as severe and inflexible as the Draconian Code. No matter how much their hearts may bleed for humanity, they say they can't do anything about it. 'You can't change human nature, amen.' Press, pulpit and classroom have enlarged upon this theme for

ages. Until the lion decides to lie down with the mouse, it is hopeless. All we can do is try to reform the lion. Oddly enough, it has always been the lions on top of the social pile who proclaimed this fable.

It never occurred to anyone until recently to analyze this myth. Then it was discovered that what was being camouflaged by the term 'human nature' was actually nothing more nor less than human behavior. After this, the woods began to thin out. Most any bright person can understand that people behave according to the rules of the particular social system they happen to live under. Also, that as conditions and rules change, human behavior responds also and accommodates itself to the altered circumstances. There's nothing inflexible about human behavior at all. Its outstanding characteristic is its resiliency. But it has been to the interests of the chiseling minority of people to preach otherwise.

'Oh! So now the cat is out of the bag, eh?' you say.

'It's the chiselers who make it tough for the rest of us. Well, the dirty so and so's. We'll get even with them, all right.'

'No, that won't do you any good, brother,' we reply. 'The only reason you're not a good chiseler is because you haven't got enough of that type of smartness. That goes for all the rest of us too. Come on, now, be a sport and admit it.'

'O.K., pal, I guess you've got something there. But, nevertheless, something has to be done,' you say.

'You're darn tootin', and something is being done about it,' we come back.

'Remember, we were saying something about numbers back there a bit? Did you pay any attention?' 'Yes, but what have numbers got to do with getting even with chiselers,' you might retort. 'Plenty,' we'll say. 'In fact, thereby hangs this whole story. So, if you will please tag along with us another block or so, we will show you the relation of numbers to human behavior. We've seen it work in several instances. And, boy, does it flatten the chiselers. The case we have in mind is only a minor example of the application of the function of numbers to social problems. But the principle is sound, and maybe we can find bigger ways to apply it. Who knows? Let's get along with our story.'

Two Cows For Every Family

One day, along the tail end of last winter, the warden and I decided that it would be nice to have a juicy steak for supper, for a change. Naturally, it fell upon this observer to rustle up the steak. The locale of these events was on the north side of Chicago. As everybody knows, Chicago is the center of the meat industry. It would seem, therefore, to be no problem to get a nice steak. Center, or no center, buying a steak legitimately in Chicago today is an adventure in the mathematics of chiseling. Remember, we said 'legitimately.' That means in good old 'free enterprise' way that business is always bragging about,

where you walk right in, pick out your steak, plump down your dough, and walk out again.

That's the way they do it on the black market, nowadays, it's said. In addition, the black market doesn't demand red points. It is just a case of pay the price and no questions asked. Isn't that the essence of free enterprise? We wonder if it is possible that 'free enterprise' has gone underground for the duration. It's a cinch there is nothing so free about it above ground. That includes the consumer's point of view, too.

First, you have to manipulate that European device for dividing up a scarcity, your ration book. 'Count your red points, count them one by one. Then you'll plainly see how badly you've been done.' After determining that you have sufficient scarcity tokens for a good sized steak, you drift off hopefully down the street. You don't just walk into the first butcher shop you see. Unless there's a mob gathered in front of it, it is a sure sign they have nothing on hand but cereal-stuffed sausage, frozen fish and oddments of meat products that nobody seems to buy when they're in their right mind.

So on this occasion we drifted down the street, looking for a mob. Right in the middle of the first block, we saw a crude sign pasted on the door of a butcher shop. It said: 'Open at 2:30 P.M.' The sign must have just been placed there, for only two women were standing in the doorway. By our watch it was 2:10. We decided to stay there and try for a juicy

steak. . Two and one always makes three, so since we were the third person to notice the sign and stand in the doorway, we figured we ought to be third in line.

Page Mr. Einstein

It soon became evident that our moral evaluation of seniority rights meant nothing but zero in the face of a determined band of women, bent on getting meat. Before we had really settled down in our shoes for the twenty minute wait to be over and the shop to open, our little nucleus of three had grown to ten. This, by some magic of adsorption from the passing stream of pedestrians, soon grew to twenty.

By this time a sad discovery forced itself upon our consciousness. Instead of being third in nearness to the door, we were now about sixth. Somehow, we had been outmaneuvered. By some fancy shoulder work and clever manipulation of a loaded shopping bag, a smallish, elderly 'mom' got in front of us. Another determined 'mom' with a fake fur coat was making steady progress in an oblique direction, with the same object in view. How the other 'moms' got in ahead of us, will forever remain a mystery. But there they were.

Our little band of twenty soon doubled in size. With each increment of numbers, this observer's position in relation to the door seemed to worsen. As the minute hand approached 2:30 P.M., he was reduced from sixth to ninth. All this happened without his having budged an

inch. Upon reflection, we've decided that maybe that's how it happened. They say there's always room for one more. While we stood fixed and determined like the Maginot Line, the chiselers deployed around our flanks. They flowed toward that butcher shop door like a process of osmosis. There was something inevitable about it, something that defied the rules of equity.

Or perhaps it was a case of behavioristic tropism. We remembered a physics professor who used to tell about chemical tropisms in nature. As we recalled, he had said that a tropism is the inherent tendency of a living thing to respond definitely to an external stimulus. He would illustrate the idea like this. Suppose a person to go out on a hot summer day and lie underneath a tree. The air is still, not the slightest trace of a breeze blowing, and the sun is shining fiercely. Well, you lie down on your back underneath the tree and look up at the leaves. Strangely, in spite of the still air, none of the leaves seem to be still. They're constantly moving back and forth, sort of waving on their stems. The professor used to say that every leaf on the tree is maneuvering for a better position in relation to the sun.

That's just exactly how this crowd behaved. They were maneuvering for a better position in relation to the butcher shop door. As the clock almost reached 2:30 P.M., the tension mounted. One could see the lines become a little grimmer on people's faces, eyes became a little narrower

and a calculating light entered them. Each person was figuring what to do when the door opened. He, or she, was planning his strategy to get to a certain position at the counter where he guessed that chances to be waited on first would be best. The crowd was fast becoming a mob, all bent on the same thing, but a mob in which each person's interests clashed with the other's.

Then, suddenly, the fat lady cashier sidled up from one side and flung the door open. Everybody rushed in. Some headed for the section of display case containing the shortribs and roasts. Some, including this foolish observer, headed for the section where steaks were piled up on glistening white pans. The smartest headed for the cash register. For, believe you me, brother, where the 'do re mi' accumulates and is piled up the highest is the best place to chisel into the river of commerce, whether it's for a sale or a purchase. That's the Price System for you.

'I Got Here First'

In no time at all, the butcher shop was full of women. Only two males of the species had been nuts enough to enter this free-for-all. No doubt the other sap also regrets his foolhardiness in trying to compete with a bunch of anarchistically determined 'moms.' It just isn't in the book. To make matters worse, they looked at this observer with looks that said: 'Why ain't you out in the Pacific

bearding Japs instead of in here trying to beat me out of that steak?' They had a way of making you practically feel that you were guilty of taking steaks out of the mouths of babies. At that, maybe they do feed their babies steak. Else, how did they themselves grow to such Amazonian behavior.

This was the first flock of impressions forced upon us as we stood hopefully in front of the pile of steaks. Boy, those steaks looked good. The meat was just the right color. Little stringers and speckles of yellow fat branched out all over the surface. This is a sure sign of tender meat. If it is a solid red, beware, for that means toughness. So help us, we hadn't seen steaks like that for a year. Some woman off to the side observed: 'What good looking meat that is.' We were afraid to turn and look at her for fear some clever, chiseling 'mom' on the other side would use that as a pretext to slip in ahead of us. They do it in the darndest ways.

There we stood, trying our best to look like an old customer. There were three butchers behind the counter. Every time one of them came up to our end of the showcase, some woman would say: 'I got here first.' Another one would say: 'Why, I've been here for 20 minutes.' Then there would be some unintelligible muttering in the crowd. The butcher didn't seem to notice a thing. He'd say: 'All right, Mrs. Murphy, what's yours today?' Or: 'Oh, yes, Mrs. Smith, what was it you wanted, now?' It

Arrange and Classify Quantities

The whole operation was as smooth and pleasant as an ice-cold double-malted on a hot afternoon. Chaos in one place and order in the other, and the same 'human nature' in both places. Who says you can't change human behavior? Whoever it was that started this myth, he was a liar by the clock. So are those who perpetuate it. Human behavior is changing all the time, right in front of our noses. In fact, if it weren't for the resiliency of human behavior, the rigidity of social institutions would have made a complete mess of civilization a long time ago.

As we made our way toward the jalopy, another idea seeped in. A little voice inside our head said: 'I bet that some engineer had something to do with introducing the number system into retail stores.' Another little voice said: 'Maybe, but it does not solve anything. It only effectuates an equitable dispensing of an artificially enforced scarcity. If technology were freed from the tyrannical restrictions of the Price System, it

would soon produce such an abundance of everything that the shelves would be loaded in every retail store in the land. Then you wouldn't need any numbers system.'

'That's right,' the first voice said. 'But you are still existing under the Price System, and technology is still in chains. The point here is that the function of numbers is to arrange and classify quantities. That's mathematics, and mathematics is an important part of science. The application of the function of numbers, even in a small way, to minor social problems illustrates what could be done by the application of the scientific method as a whole to our major social problems.'

'I guess you have something there,' said the first voice. 'I'm willing to go along on that basis.'

In perfect harmony the five of us (this observer, the two little voices inside his head, and the two T bone steaks) proceeded happily homeward.

Nota Bene: The steaks were wonderful!

ONE BORN EVERY MINUTE

Suggestions to the tune of 8,500 made by 3,800 employees of Consolidated Vultee Aircraft Corporation saved 16,000,000 man-hours of labor in 1944. The Corporation rewarded these faithful 3,800 workers with bonuses, etc., totaling \$110,520. Assuming the average man-hour cost of labor to be \$1.00, the corporation made \$15,889,480 on the deal. Of course, that old gentleman with the whiskers, known as Uncle Sam, will probably transfer some of this wind-

fall to his own coffers by way of renegotiation, etc. But, it's still a good deal. (Data from *Steel*, Jan. 22, 1945.)

'The public not only likes to be fooled, but is perfectly willing to pay for it.'

—Olin Miller, in his column
'In passing,' in *Chicago Sun*
12-28-43.

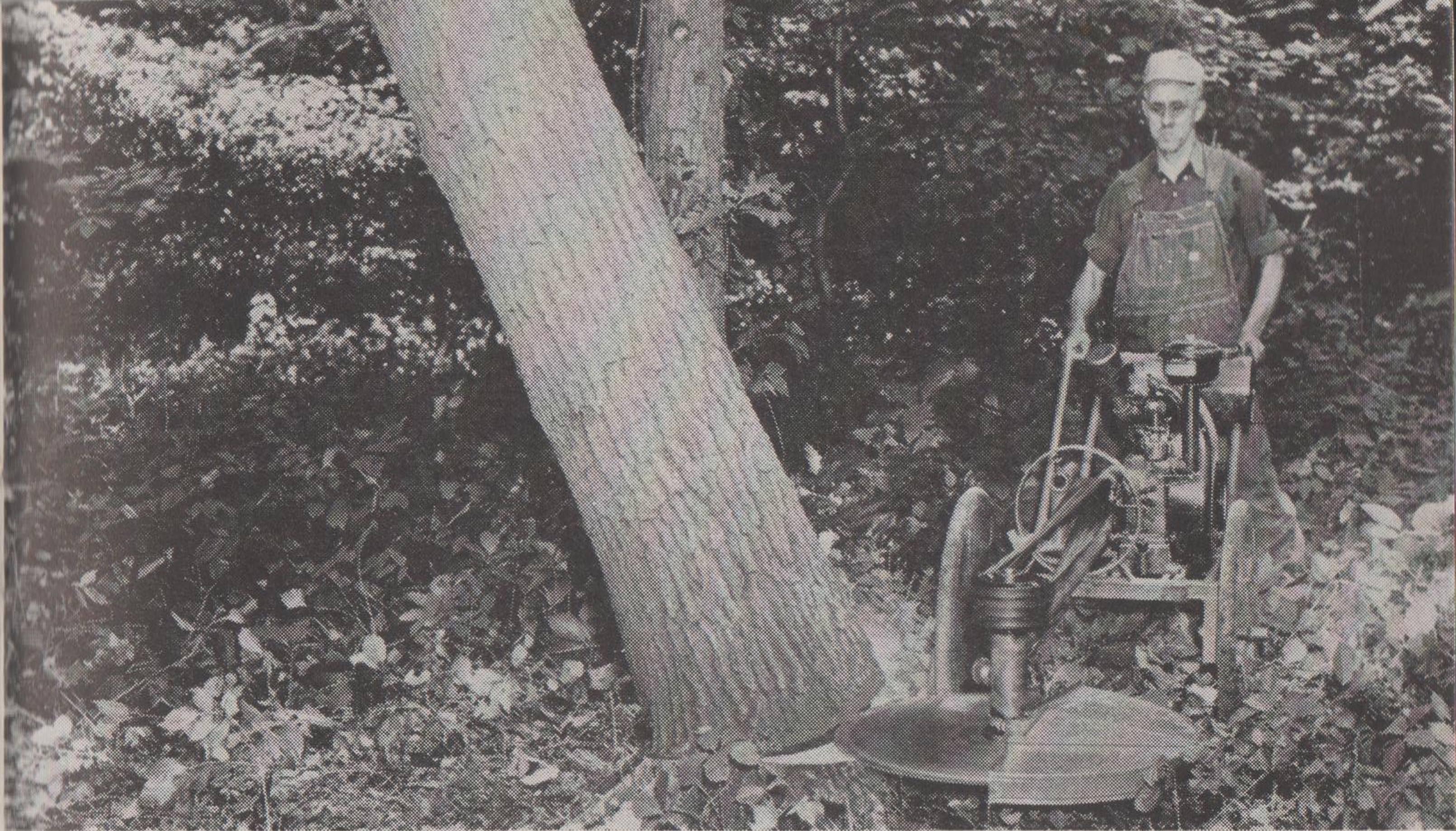


Photo: Courtesy Harry A. Lewther Company

'Hire one man and buy the other three,' says the maker of this belt-driven saw. This strikes the theme of our picture story, the displacement of skill and man-hours by advances in technology. In the good old days, trees were felled by crews of men with axes and hand saws. Now one man fells a 24" hardwood tree in 3 minutes or a 11" pine in 15 seconds. The saw is powered by a 6hp gasoline engine and cuts up to 20 cords of wood a day. A great amount of lumber is saved because of low stump cutting.

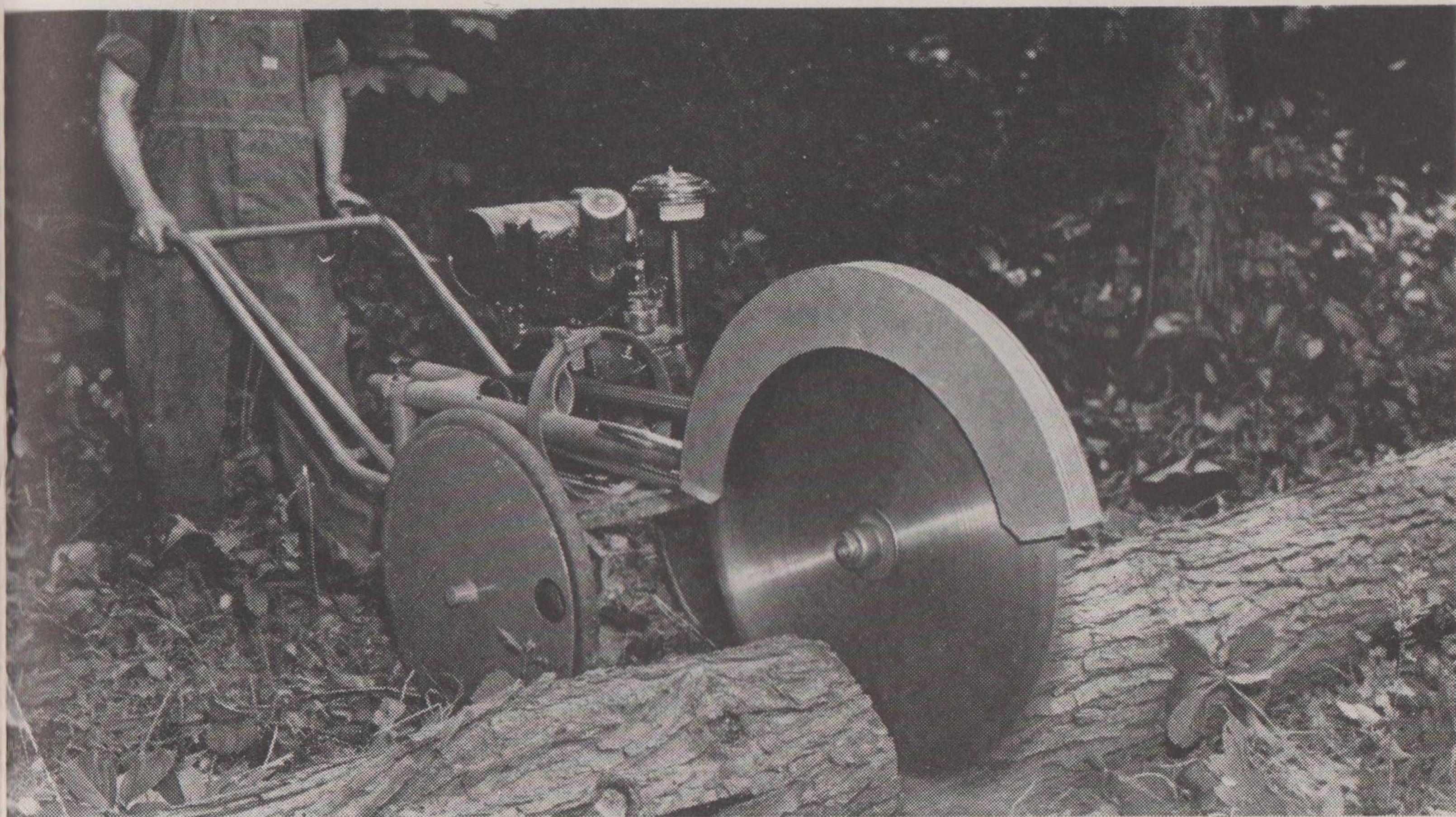
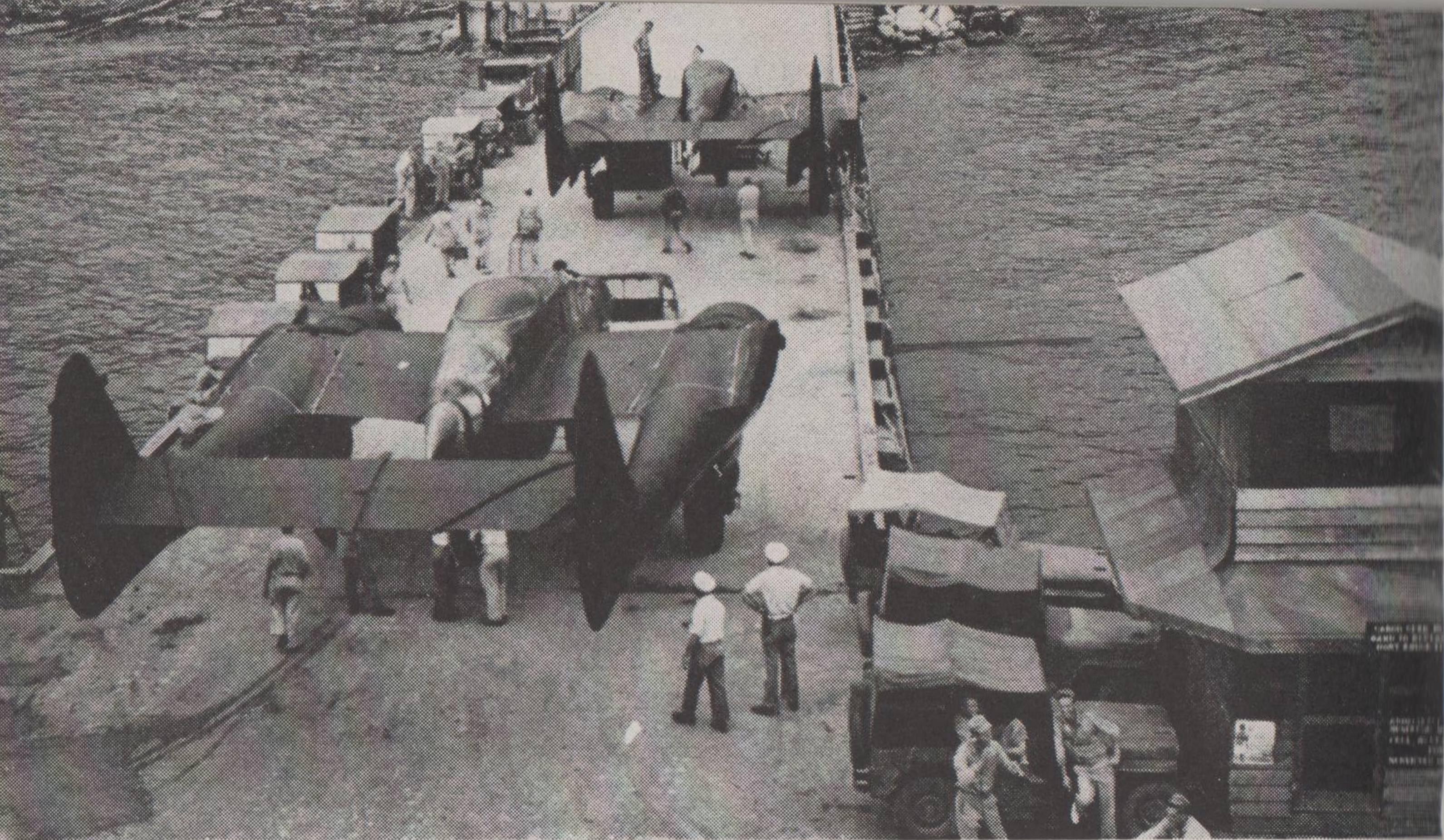


Photo: Courtesy Harry A. Lewther Company

Falling, bucking, limbing, it's all the same as the blade operates in any position. Perfectly balanced with easy rolling wheels on needle bearing hub assemblies the saw can be trundled almost anywhere. Technology sounds the death knell of toil, hand tools and special skills in the woods. In 1943 total cut and wastage of timber exceeded growth by 50 percent. 'Free enterprise' has cut down 5/6ths of America's forests. Technology points the way to greater waste or conservation. It's up to us.



U. S. Army Air Forces Photo

This is about the last word in propeller driven fighting planes, the Northrop P-61 Black Widow. Skill is already being displaced here. The pilot only flies the plane. Two gunners, fore and aft, share remote control of 50 calibre guns mounted in the turret. Line of fire is adjusted by computing mechanisms. Control can be shifted back and forth between the two, or turned over to the pilot for strafing ground targets. The P-61 engine requires special mechanical skills to maintain.

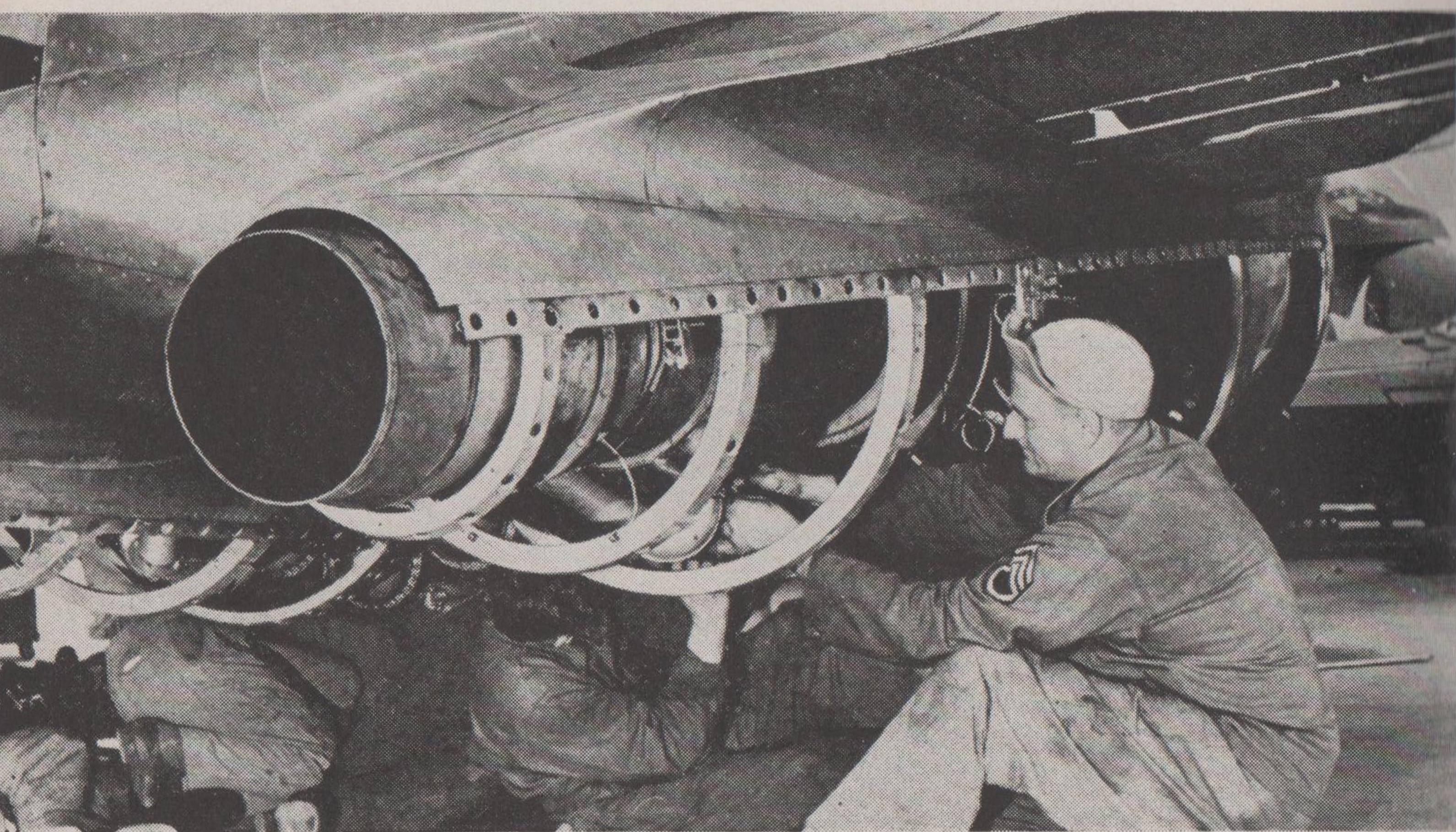


Photo: Courtesy General Electric Company

Not so with this turbo-jet engine on the Bell P-59A jet plane. Maintenance and repair takes less than 1/5th the time, labor and tools necessary with a reciprocating motor. Four men can pull both engines on a plane and install new ones in a day. Eleven bolts hold the entire assembly on the plane. Jet engines require no warming up. A minute after the starter button is pressed the plane can take off. The jet motor has blasted an awful hole in the skill and man-hours of the airplane mechanic.



Photo: Courtesy Automotive War Production

Five years ago North America witnessed the first successful flight of a helicopter. Today, war helicopter R-6 is in mass production. Helicopters fly in ways impossible for conventional and jet planes, such as, take-off and land vertically, fly forward, backward and sidewise, or hover over any given area. The main rotor on top gives the craft lift and lateral motion, the tail rotor acts as a rudder. A single air-cooled engine powers both rotors. Less skill is needed to fly this craft.

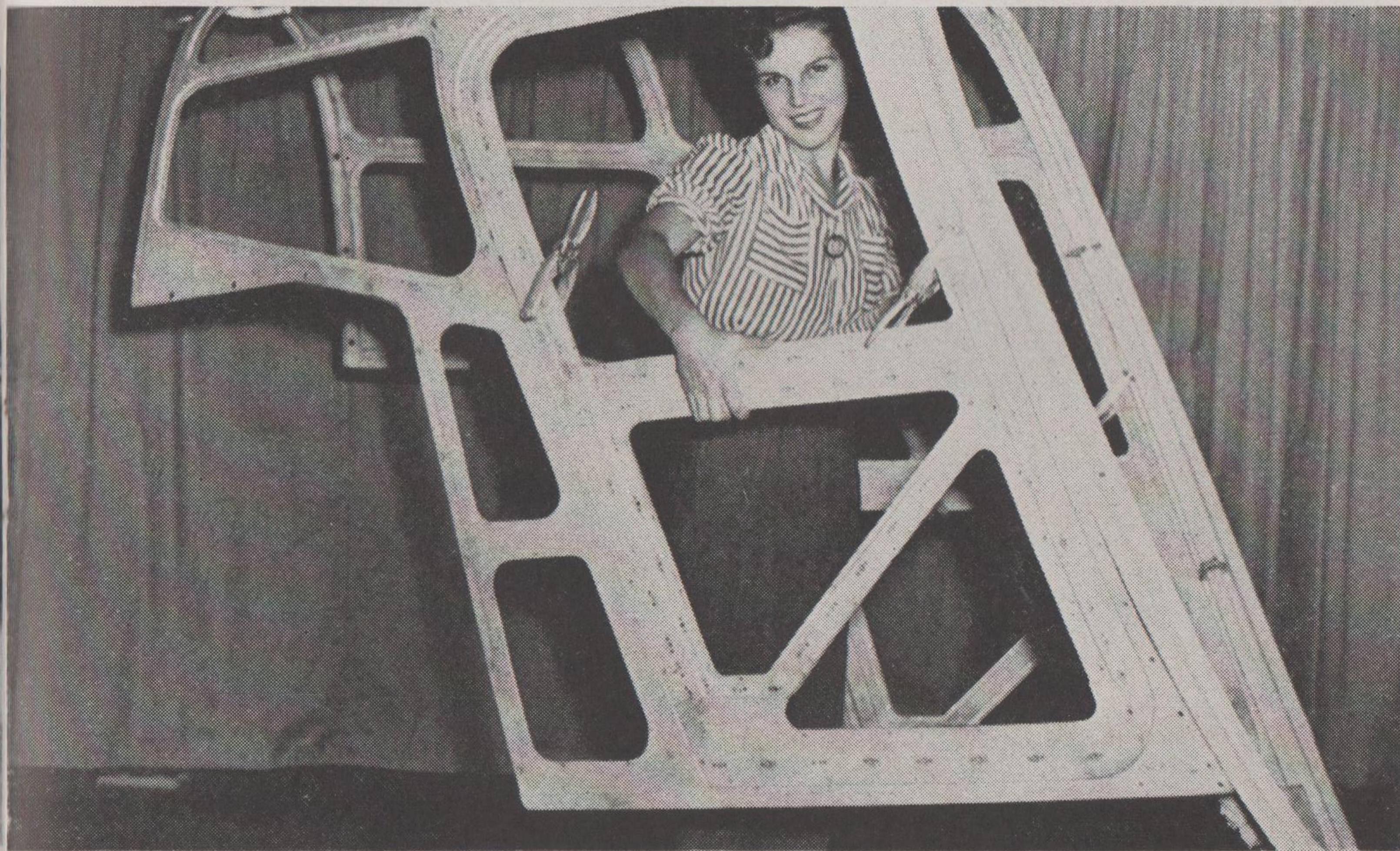


Photo: Courtesy United States Rubber Company

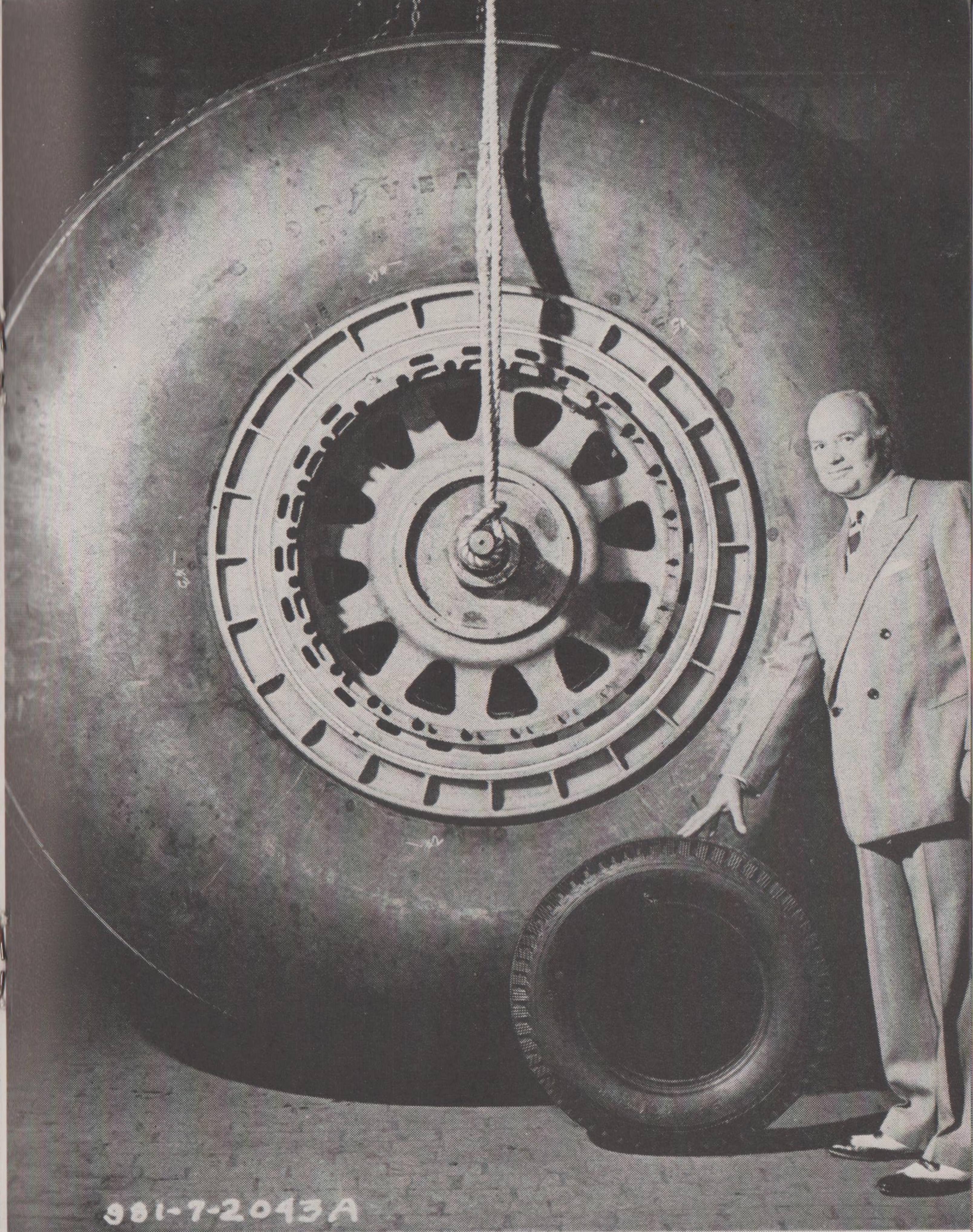
One advance making R-6 possible is this lightweight, helicopter cabin framework. It's made of fibreglass, laminated and reinforced with thermo-setting resins and weighs half as much as aluminum. This material has great tensile strength, is an electrical non-conductor and is immune to gasoline, oils, acids, alcohol, most alkalis and fungus growths. It retains its properties in the arctic or the tropics. Technology conserves irreplaceable metal resources while reducing skills and man-hours.



AB-22695 AC

U. S. Army Air Forces Photo

Here's one big reason why the Luftwaffe is no more. It's the Franks Flying Suit, invented and developed by Wing Commander W. R. Franks of the RCAF. The suit counteracts the force of gravity and centrifugal force by applying an equal air pressure to the pilot's abdomen and legs during sharp pullouts and turns. This avoids "blackouts" by preventing the blood from leaving the brain. It makes Superman-like aerobatics possible; and transfers the physical tolerance limit from the man to the machine.



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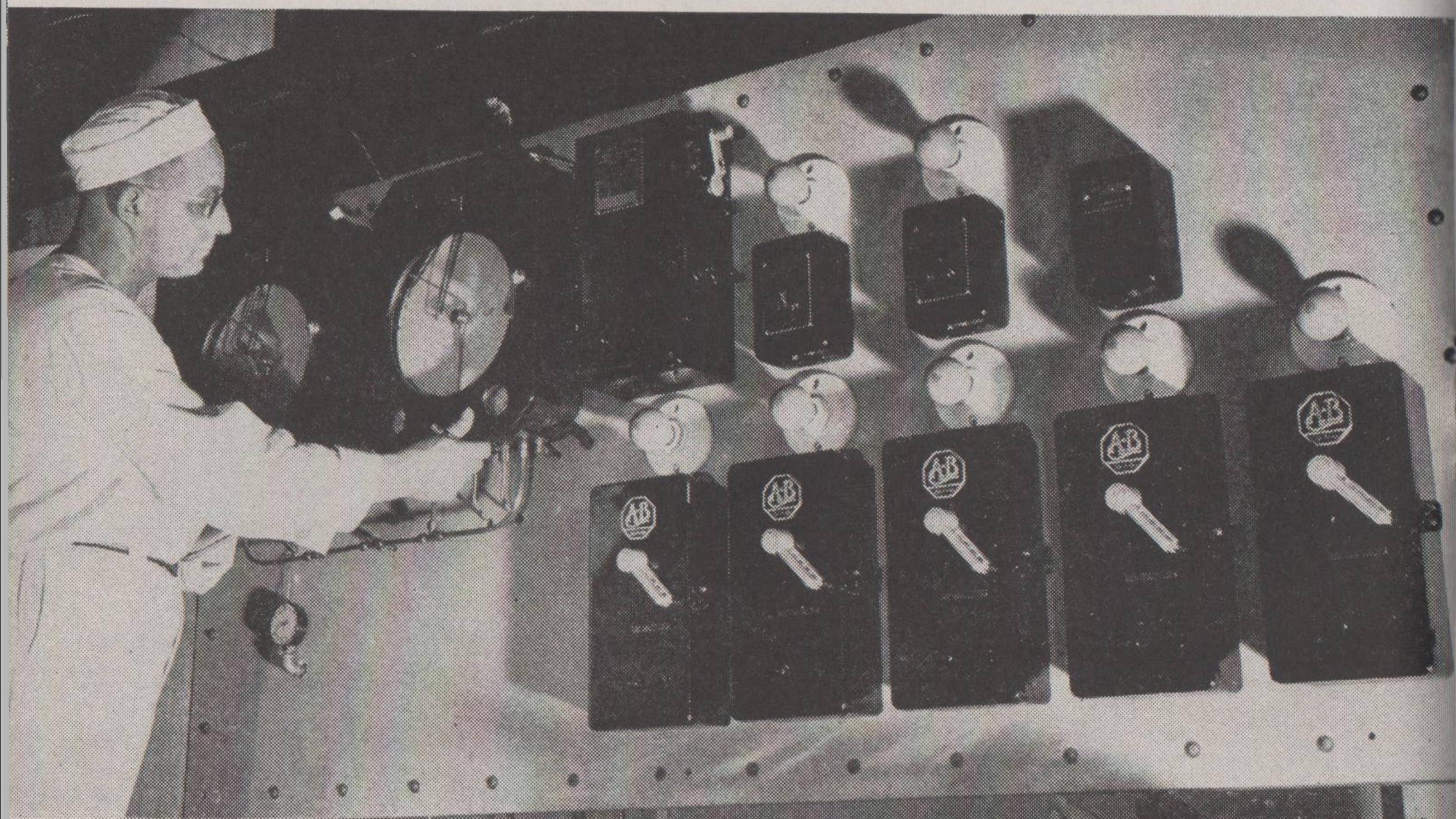
Photo: Courtesy Goodyear Rubber Company

What has technology wrought here? They say it's an experimental airplane tire, over 9' high. The inner tube alone weighs 250 lbs. and the assembly of tire, tube and rim weighs over one ton. This is the largest and heaviest tire ever produced. A picture like this makes you think of Technocracy's giant Flying Wing. Maybe this tire is big enough and good enough for the Wings of the Continent. Who knows? This shows its not lack of tire technology holding up the Flying Wing. Then, what is it?



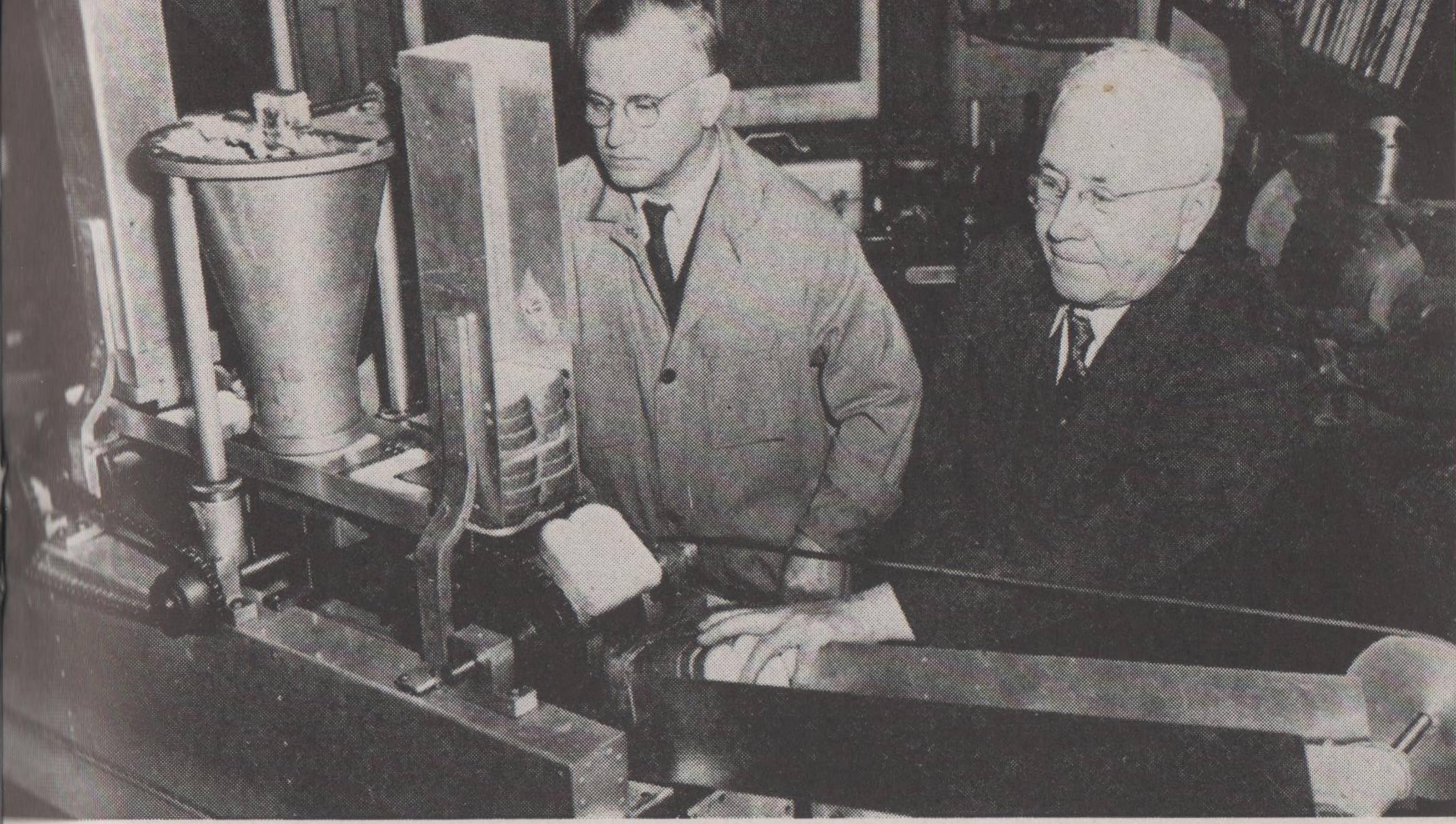
Photo: Courtesy United States Rubber Company

Technology smooths the way with an immense three dimensional terrain model of Attu Island in the Aleutians. Seizure of the island was preceded by a study of the model. These collapsible rubber contour maps are based on aerial photographs, reconnaissance reports and pre-war maps. Technology reduces the cost of invasion in toil and lives. The greater technology becomes the higher goes the production ability, the lower goes the scarcity, and the more the Price System muddles around. Catch on?



U. S. D. A. Photograph by Knell

Who would ever have thought that that autocrat the Chef would ever be robbed of his skill! Yet it is on the way. Here he has turned into a reader of graphs, a taker-down of notes and a watcher of signal lights. It's the control station of a tunnel dryer in a carrot dehydrating plant. Carrots are washed, peeled, diced by machines, then blanched to kill enzymes. Temperature, humidity and timed motion through the dryer are all automatically controlled. The whole plant is mechanized. Not much skill here.



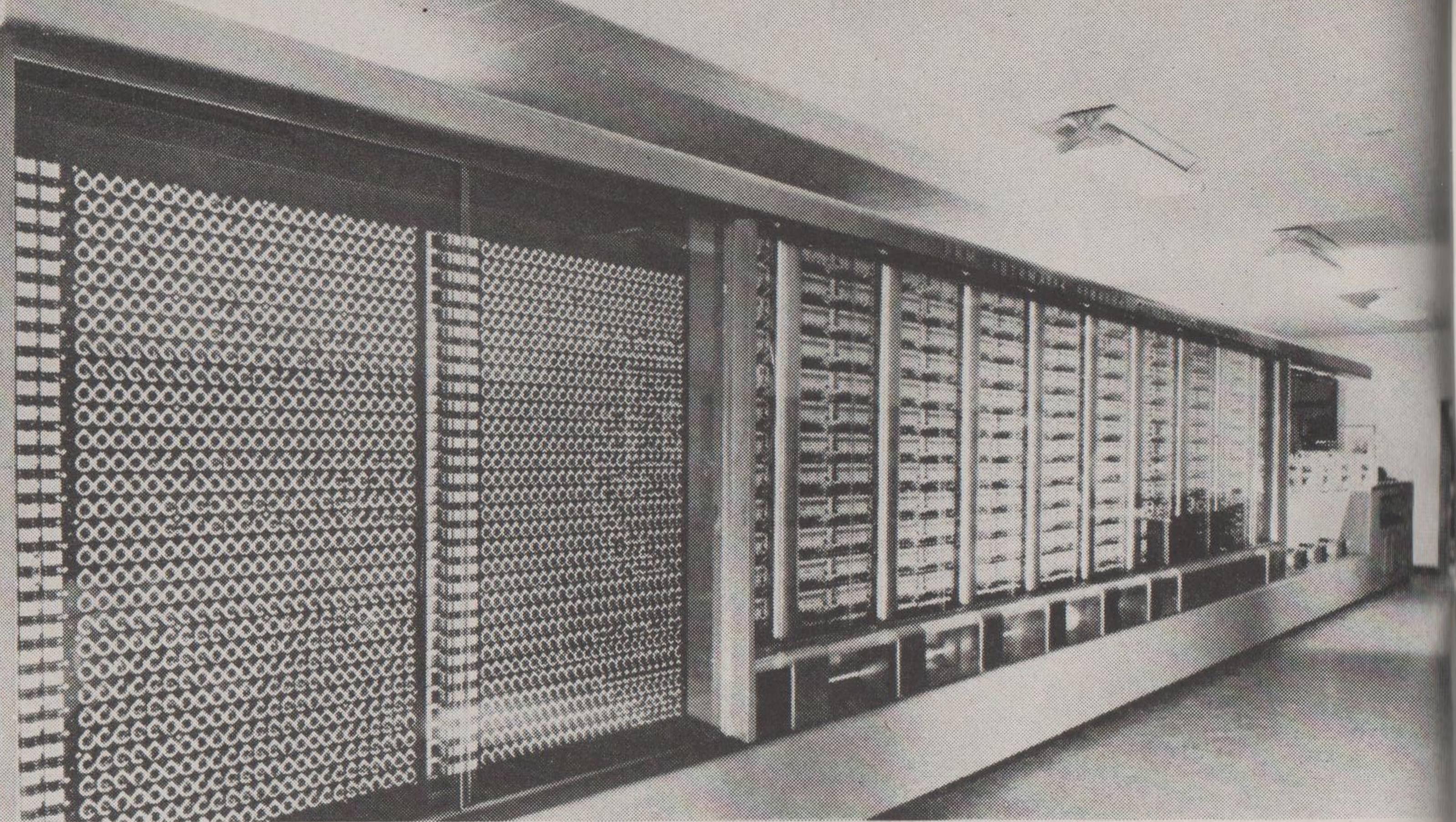
New York Herald Tribune Photo

Here it is again. This machine displaces both man-hours and skill. It makes 3500 sandwiches an hour as compared to the 250 turned out by skilled sandwich makers. It was perfected by the old gentleman in the picture and it is used in New York's school-lunch program. The under slice moves from the stack container on the left, past the funnel spreader in the center (butter, cream cheese, jelly, etc.), to the stack container on the right for the top slice. Wonder how they'd do it with hamburger?



Official Photo U. S. Air Forces

The type of social progression we have been illustrating is unknown in China. There they still operate as did their honorable ancestors thousands of years ago. Human toil and hand tools are the only methods the oriental has available; consequently he has scarcity. Here they reduce stones to a useable size with hand hammers, in building a B-29 base. Not much skill needed here, it's true; but what a lot of man-hours and low scale of production. You can't produce abundance with scarcity methods.



Here is the greatest skill and man-hour killer up-to-date. It's the IBM Automatic Sequence Controlled Calculator. It solves almost any known problem in mathematics correctly out to 23 figures and if an error is made in the process the machine will stop. A problem which required four experts 3 weeks to work out with ordinary calculators was solved in 19 hours. Whew! There's no space to explain more; besides we're stuck. But, how about applying it to measuring some of America's social problems?



Photo: Courtesy Norfolk and Western Railway

And here's what it's all about, North America. We mean the physical America of industrial equipment and resources, rivers, mountains, valleys, prairies, lakes, people, etc., the land itself. It's worth working and striving for to bring its little Price System social institutions up to the stature of its great technology. Here's a scene from the Roanoke Valley in Virginia. We may sing 'carry me back' till we're green in the face, but events are driving us forward to the New America, willy-nilly.

The Nation Notion

People Would Like to Be People

By H. V. Wilkie

Moronia Forever

ESSENTIALLY a nation is only a clan in long pants. From this beginning we come by easy stages to a world divided into a hodge-podge of vari-colored patches, nations. There really is no such thing as a nation in the usually accepted sense that a nation is made up of human beings who are fundamentally different from their neighbors. The physical differences are purely superficial, such as skin pigmentation, modes of dress, types of handicraft, etc. The so-called national characteristics of one group of people which are supposed to distinguish them from all others are purely psychological, a batch of carefully nurtured notions, both about themselves and everybody else. The traditions, folkways and behavior patterns accumulated by individuals within a given national environment drop like molted feathers when transplanted to new surroundings, although groups of transplanted nationals tend to cling to a homeland hangover for varying lengths of time.

It is easy to recognize several of the 'national characteristics' which people fabricate and drape around themselves and others, with the absolute conviction of reality. One of the beliefs of every nation is that its people must have anywhere from a

mild distaste to a violent hatred of some other nation. Another thing each national believes is that his particular nation has some abstract thing called a culture which sets that nation apart from the rest of all mankind. Nearly all have some religious preference which gains for them the most benign smiles and approbation of Diety. All are animated by the belief that it is their destiny to populate the earth, so each one hangs a weight on the safety valve, and lets the birth-rate climb through the end of the tube, apparently with the intention of beating their neighbors to it, and swarming all over the place. Nearly all have some type of political ideology guaranteed not to rip, tear, warp or run down at the heels, which really sets them on a pedestal above the balance of struggling mankind.

Take the whole mass, stir liberally, garnish with a generous portion of patriotism, heap it up nicely, stick a flag in the apex, and there you have it—a nation! One of the peculiar things about the whole set-up is that you take a Hungarian and a German and a Romanian and a Slav, throw in a Chinaman and a Patagonian for good measure, and set them to work together on a job, away from the psychological aura enveloping their homeland, and they automatically become just people engaged in a common undertaking.

Judging by the results portrayed in history's bloody pages, the consequences of this highly developed nation notion are anything but salutary. Do we take some sort of sadistic delight in hitting ourselves on the head with a hammer? Is it inherent idiocy which causes mankind to continue this type of behavior?

I Am The State

Starting with the old man as the head of the family, the chief as the head of the clan, the feudal baron as the head of the feif, the king as the head of the state, and on up to the present day political ideology complex, we find the element of Big-Shot-It is woven throughout the whole pattern. Also examining the physical condition prevailing throughout this progression, we find the dominant characteristic of scarcity. Where tidbits were scarce, luxuries rare, and subsistence hazardous, who got the subsistence, the luxuries and the tidbits? It's easy to see that if the old man has the biggest club, and is quick on the draw, there will not be too much argument as to where the choicest morsels fall. However, as the earth ceased to be an open hunting ground, and populations settled and congealed and multiplied, the problem of control indicated a different technique. From the beginning until this day and date (see your local calendar for particulars), it has been the function of the Big-Shot, i.e., the ruling classes, in all places, ages and climes, to be the arbiter of who gets what.

To state the case in its simplest

terms, if you have twenty people and fifteen pairs of shoes, you have scarcity. If you carry the same thing in varying ratio throughout the list of human needs and desires, you have an economy of scarcity, so-called, which in reality is a physical lack of enough goods and services to go around amongst the population of a given area. In such a case the first tendency of the great unwashed was to plunder their neighbors, an occupation that has held unwaning popularity throughout the ages.

In later years it was found that an unrestricted indulgence in this type of activity placed too much emphasis on the plundering and too little on supplying the plunder, making the pickings a bit thin for all hands. At this juncture, let us see just what occurred. First, let us recognize and emphasize that the actual environment in which most men lived was one of scarcity; not enough to go around, therefore, some one had to do without. In a condition of this kind, for the strongest to grab the most meant continuous strife. Also, there were notable hazards involved in each clan, dukedom, etc., extracting a living by force of arms from its neighbors.

So we invented the nation. This provided an orderly method for the distribution of the scarcity in any certain area. Fundamentally nothing was changed but our psychology. Still there were not enough goods and services so that all might enjoy a reasonable equality. The timid still shivered in poverty, while the more

predatory lolled in luxury. It was much more agreeable to keep the folks busy tilling, herding, mining, weaving, building, etc., and let trained fighters do such warring as was deemed necessary.

The trick of pacifying the masses in this type of activity, so that their labors might redound to the well-being of the classes was where the psychology came in. Work, loyalty and obedience were praised to the skies. Poverty and honesty became twin virtues which, with the invention of organized religion, gained for their possessors future salvation and heavenly mansions in inverse ratio to the meagerness of their earthly estate. The mass of psychological nonsense which accumulated in relation to the nation consciousness was not necessarily an upper class product for lower class consumption. The lower classes joined with the upper in glorifying this kind of stuff, largely as a comforting self-justification for being lower classes.

Chisel or Be Chiseled

It must be understood that there is no question of moral right and wrong involved in this process. The fact remains that where there is not enough to go around, some one has to do without. The only question is who? While philosophers moralize, and dear ladies drool sympathetically, those who are capable see that they get theirs, and those who are incapable go without, on down the line in the ratio of their incapacity. The only point at issue in the so-called 'class

struggle' is a sort of wishful thinking that the poor and weak, the hard-working and downtrodden, be elevated to the getting position; and the strong and capable demoted to the go-without department. Peculiarly, wherever this has been attempted, it doesn't work. Like the law of Proportional Aggregates, the big stones do not reach the top by forcing their way up, but because the little stones insist on squirming their way down to a comfortable repose at the bottom.

Therefore, the so-called class struggle becomes a fine conversational medium for speculation, and has some utility as an emotional relief valve. No social equality can actually occur anywhere until a dynamic equilibrium between population and production resources has been established in a given area. Assuming this condition to exist, it will then be found that the chiseling practices of the Price System (the anarchistic buying and selling and production for profit) would be inadequate, and that some engineered design for distribution would be required.

A nation, therefore, might be defined as the boundaries within which a given group of ruling class elements are able to maintain control. This internal operation might also be called the function of a nation. The original national boundaries were established occasionally by natural barriers, but more generally by the ambitions of the founding fathers, each group or founder staking out as much as they could successfully operate. These boundaries usually frayed

at the edges, moving back and forth, appearing and disappearing with the fortunes of war, royal marriages, swapping and such like manipulations. Only a few have managed to maintain any settled position for an appreciable length of time.

Periodically it has been the dream of some smart group of operators to take over on a world-wide basis. Their reasoning appears to follow the line that they have become so deft at exploiting the nation notion within a small area that it's a shame to keep such talent confined to the boundaries of its origin. Occasionally, nations find themselves with manipulators who have lost their touch, or who have found the picking so easy that they have become soft, in which case their neighbors move in and take over with neatness and dispatch. And that, broadly, is how the thing operates, scarcity being the underlying and dominant factor.

The medals on the breast of a Nazi General are supposed to proclaim to all and sundry the unequaled virtues and exploits of the bearer. So it is with the mass of psychological fabrications which we have so carefully wrought and draped all over our nation notion. Factually, there is no possible escape for any nation from poverty, malnutrition, greed and corruption internally; and power politics, wars and bickering externally; until it scrapes off every layer of its psychological over-burden and deals in an objective manner with the physical facts which dictate exactly what can and what cannot be done.

Area Technology Dictates

What are the facts? The number one fact is that the social pattern in any area must be conditioned by the amount of natural resources, the installed technology, and the potential energy available to operate equipment. Hand in hand with this first consideration must go the understanding that any land mass will support in reasonable health and security only that number of population which the natural resources, energy and technology can supply with goods and services. Land areas that have violated this principle can manifest only a meager social status and any attempt on the part of your Uncle Sucker to be Lady Bountiful to the world can only result in more of the same, unless this fact is intelligently faced.

Having once established a dynamic equilibrium between the population and the physical fundamentals, only by increasing the installed technology can any increase in the population occur, without degrading the social pattern. As long as human beings insist on propagating beyond the ability of their environment to support them, all human philosophies, doctrines, beliefs, wishful thinking, brotherly love, and ecclesiastical unction are pure and unadulterated hogwash. The only possible social stability must be geared to population growth control. This poses a question of choice. What do we really want? A world fit to live in, or the free and untrammeled propagation

of the species, regardless of the consequences. If the politicians at Peace Tables assembled are interested in Peace, let them call in the scientists and engineers to do their map making for them, and give the nation notion a perpetual holiday.

It should also be obvious that from an operational standpoint various land masses must be viewed as such and in relation to the inclusion of natural resources, not in relation to any traditional, political national boundaries. Recognizing the North American Continent as one land mass, *Technocracy Inc.*, on its own initiative, has performed the necessary function of surveying and analyzing the natural resources, energy and technological potentials on this Continent. *Tech-*

nocracy Inc., being what it is, the mechanism for applying science to the social order, took the next necessary step. It designed a type of social operation and controls that could be employed to successfully operate the production and distribution of the potential abundance existing within this Continental area. What type of design *Technocracy* might prepare if called upon to extract the rest of the world from its chaos would be pure speculation, because such a call has never been made. The design that *Technocracy* has prepared for the North American Continent has never been factually assailed, and is a matter of record. It will require none of the claptrap of the nation notion either to install or to operate it.

WHEN DO WE EAT?

'Nobody seems to be able to get the figures, but we know that warehouses in every part of the country, including many not ordinarily used to store food, are packed. In many cases the food is spoiling. If some of this food could be gotten out of storage there would be more now for the table.' H. Wayne Clark, President of the National Food Brokers Association, at a conference of food brokers in the Chicago marketing area, held at the Stevens Hotel, April 7, 1945. (As reported in the *Chicago Daily News* of that date.)

'I understand,' Wherry said, 'that you buried something like 100 carload of potatoes in the ground somewhere down South.'

'Yes, sir,' said Olmstead. 'When the early potatoes came in in 1944, we had to buy potatoes all over the country

to support the price. When you buy a commodity, you have to do something with it.'

Testimony of Lt. Col. Ralph W. Olmstead, WFA director of supply, at a hearing of the Senate Food Investigating Committee in answer to a question by Senator Wherry (Rep. Nebr.). (As reported in *Chicago Daily News*, April 4, 1945.)

60,000 hogs and 20,000 cattle are yearly passing through the black market—of that district (Seattle, Wash.) 'In our area the illegal trade has become so prevalent that the question with us is, "Who isn't in the black market?"' W. S. Greathouse, President of Frye and Company, Seattle, Washington packers, before the House Food Investigation Committee in the Stevens Hotel, Chicago, Illinois. (As reported in the *Chicago Daily News*, April 16, 1945.)

Primer Of Technocracy

By Education Division 8741-1

The great majority of people who come into Technocracy are average, normal citizens from all walks of life. Most of them are accustomed to things as they are and concerned about it. They know there is a Dutchman in the woodpile somewhere, for they never seem to be able to get ahead. Others have hacked their way up to Technocracy through a jungle of economic and social preconceptions by a process of intellectual elimination, or growth. Both of these types are concerned about themselves, their families and their country. They have lost all confidence in the political method, but do not see how social problems can be solved in any other way. They are sincerely looking for the correct answer. These are the bulk of the human components of which the great organization of Technocracy Inc. is formed. They are all typical, average Americans.

All-Voluntary and Racketproof

Another point wherein Technocracy Inc. is in complete contradistinction to all Price System organizations is the financial basis upon which it operates. The dues are extremely low and hardly suffice to meet the fixed expenses. How then is it possible to expand? All activities are carried out on a completely voluntary basis. No member or officer receives any financial compensation of any kind, except an occasional full-time Secretary in a few of the larger Sections, and the small full-time staff at CHQ, who are paid, not a salary but a subsistence wage. All routine and expansion activities of the Sections are carried on by members in their spare time after or before their regular work hours. It was considered impossible to build a large organization on this financial basis, because it was contradictory

to all experience. Yet it was done.

It had to be done on the voluntary plan, so as to keep the Organization free from all political and nepotic taints incidental to monetary considerations. The result is that Technocracy Inc. is singularly free from all the various types of non-feasance, misfeasance and malfeasance, common to Price System organizations. If the organization ever became commercialized, it would go off on a tangent, the Body of Thought would be discredited, and the social program perverted. So the structure of the Organization was carefully designed to follow the method of science, and the voluntary activities' plan was introduced. It can be said that Technocracy Inc. is racketproof, because there is nothing in it to take over, except a lot of unpaid work.

In order to make the design of the Organization effective, a new prin-

ciple of organizational control was adopted. This is the vertical-functional principle. You will not find it operating to any extent in any Price System organization. Many of them use the vertical method of control, which can be concisely stated as the one-man or dictatorial method. Every one is familiar with the 'Boss' idea in politics and business. The concept of dictation is opposed and foreign to the characteristics and methods of science, and Technocracy, wherein the metrical method of arriving at decisions is dominant throughout. By this we mean that all policies and decisions are based upon an examination of the relevant facts. No one's arbitrary will is allowed to prevail. The facts determine the decisions necessary. Dictation can exist only in a non-scientific set-up.

Function means the most effective use and operation of anything. It has been known for a long time, but never put into wide operation. The fullest use of the principle of function means the scrapping of too many vested interests under the Price System. However, the principle of function cannot stand alone without designed direction. Note that we say 'designed direction.' This is opposite to uncontrolled dictation. An industrial plant may have many assembly and sub-assembly functions but still requires coordination and designed direction. This is the function of the chief engineer and his staff, theoretically at least, when they are not interfered with. An armed force has many branches with distinct functions, but still needs a general staff

and a Commander-in-Chief. So in Technocracy, there is vertical direction of functional application.

The functional attitude in Technocracy is the tool of the operational method of the Organization. One-half of Technocracy is in knowing its analysis and synthesis; the equally important other half is in carrying out the operations. The functional Technocrat exemplifies this truism. He participates fully in symbolization and in all the other activities of the Organization. After the demands of the Price System have been met, his time is devoted to Technocracy. The functional attitude is exercised in accord with the strategy, tactics and policies of the social program. In other words, it is not exercised haphazardly, but in a disciplined, unified manner. This discipline is self-imposed, not dictated. Technocracy has no ecclesiastic, economic or political control over its members. Any member is free to walk out at any time without fear of penalty. It is a voluntary Organization clear down the line. No officer of Technocracy ever says: 'You must.' He always asks: 'Will you?'

This is the greatest compliment one set of human beings can pay to another. It is a compliment to their courage and mentality, instead of a sop to their opinions and emotionalism. A functional Technocrat accepts orders and carries them out because he knows what the organization is organized for. He knows that those aims can never be subverted because they arise out of physical

realities. He knows that the paramount concern of Technocracy is the New America of Abundance, in which he will share equally with others. He knows that functionality merely means getting things done in the correct way. He knows that the direction must come from the top and the push must come from the bottom. Both are equally important. He knows that when he raised his

hand and pledged himself to 'do something about it,' he hired out to do a job, not to jump on a bandwagon. He is under no illusions. He knows that the top men in the Organization must also follow the design. He knows that America itself must follow designed social direction, or be lost.

Next Issue: Four Stages of Social Life.

AND IT'S ONLY COMMENCING

More small arms ammunition is used within the Continental United States in a 24-hour period in training army air forces than is consumed in all global theatres of operation in a like period, according to Col. W. E. Larned, commanding officer at Picatinny Arsenal.

In an address before members of the American Society of Industrial Engineers in Chicago, October 1, William H. Spencer, Regional Director of the War Manpower Commission, described World War II now in progress as '*this technological struggle for supremacy.*'

Records of the 14th Air Force operating on the Chinese front show that for the period between May to August, 1944 (4 months), the physical cost of sinking one ton of Jap shipping was as follows: 1.9 gallons of gasoline and 2.5 pounds of bombs. (As reported in *Flying Aces*, March, 1945.)

In 1860 the U. S. Signal Corps bought only \$2,000 worth of equipment. In 1943 the same organization's expenditures amounted to \$5,-

000,000,000. One plant, alone, between Pearl Harbor and June 1944 produced 4,200,000,000 feet of single conductor insulated wire for army and navy communications uses. Every month American factories are producing strand wire for the Signal Corps at the astounding rate of 175,000 miles. (Research Division 8741-1.)

'We have almost produced ourselves out of business. Machine tools produced since 1941 equal all produced in the preceding 40 years, and the average life of a machine tool is 20 years.' A. G. Bryant, past president of the American Machine Tool Distribution Association, at a meeting of the Association's executive committee in the Edgewater Beach Hotel, Chicago, Illinois. (As reported in *Chicago Daily Tribune*, April 18, 1945.)

Sumner H. Slichter, professor of economics at Harvard University, told a luncheon meeting of the Committee for Economic Development at the Blackstone Hotel on July 14, 1944, that within one year after the war between 20,000,000 and 22,000,000 men will 'hit the labor market.' (As reported in the *Chicago Sun*, July 14, 1944.)

Technocracy and Your Trade

The Printing Industry Worker

By Organization Division 8741-1

The first printing press was brought into North America around 1540 A.D. It was introduced by Antonio de Mendoza, Viceroy of Mexico (New Spain), and was used for printing religious tracts and pamphlets for distribution to the natives.

The first printing press in the British-American colonies was set up by Stephen Daye at Harvard College, in Cambridge, Massachusetts, in 1639. The first work turned out was *The Freeman's Oath*.

The Honorable Art

ONCE upon a time a printer was only a printer. He set type by hand and operated a hand press. From 1430 A. D., when Laurens Coster of Haarlem, The Netherlands, invented the first movable type to the opening of the nineteenth century, printing was in the handicraft stage. Beginning with the introduction of the first cylinder press in 1811, invention after invention revolutionized the old hand setting and printing procedures. Today the printing industry is mechanized. It is a diversified industry, covering the printing of newspapers, periodicals, music, and odd job work. The older hand methods have been superseded by newer machine skills. As we shall see later, these, in turn, are yielding to automatic operations.

The complete elimination of most skills is only a matter of the further development of processes already known. So it is not correct to call a printer only a printer any more.

Today he is a printing industry worker. Tomorrow he will be a combination of engineer, technician and artist; that is, those few whom the Price System will permit to be blessed with jobs.

It is not the purpose of this article to go into an encyclopedic discussion of the history and techniques of printing. There is plenty of material available in the public libraries on that. Rather, it is our object to illustrate the position of the printing industry worker in relation to America's overall social problem today. Nowhere else in modern industry does intellectual and physical labor meet on terms of more equality than in the print shop. The method of production is technical, but the product is ideas, *i. e.*, words and pictures. It would seem that some printers are a little better equipped to see through the mess that Price System operations have made of America than is the average one-track minded citizen, who seldom gets out of his comfortable mental rut.

If Poor Richard Could See Us Now!

Printing industry workers include hand compositors, machine operators, photo-engravers, lithographers, electrotypers, stereotypers, pressmen, bindery workers, proof readers, production managers and foremen, salesmen, office workers, artists, proprietors, etc. Printing is one of the twelve largest industries in the United States. According to *Employment Trends in the Printing Trades*, a publication of Science Research Associates, one out of five printing workers is a woman. Sixty percent of these are engaged in clerical work, nine percent are skilled shop workers and the rest are semi-skilled and unskilled workers. Among the four out of five men in the industry, 18 percent are white collar workers, 54 percent are skilled shop workers, and the rest are semi-skilled and unskilled.

The proportion of skilled workers in the printing industry is steadily declining. A study was made of this subject for the years 1931 to 1936 by the University of Minnesota. It was found that the proportion of printing workers requiring from 2 to 4 years' training dropped from 32 to 28 percent. Those requiring over 4 years' training dropped from 45 to 35 percent. The TNEC Monograph No. 22, *Technology in Our Economy* observes that: 'This decline in the need for extensive training was due to the installation of automatic and semi-automatic equipment.' The authors of the study by the University state in their report:

'In the printing industry operations on automatic machinery rose from 25 percent in 1931 to 45 percent in 1936.'

While this particular study was confined to the State of Minnesota and covered only a five-year period, there is ample evidence that it is indicative of a national long-time trend in the printing industry. Monograph No. 22 states: 'Technology not only reduces the *amount* of labor required to perform a given function; it also brings about a change in the *type* of labor required which often involves a displacement of skill.' The Monograph estimates that 7,500 of the first linotype machines in operation around the turn of the century had already displaced the skill of 36,000 hand compositors by a 'machine operation requiring less skill.'

Teletypesetters are now making inroads into the skill of the linotype operator. This device operates one or a number of automatic linotypes by remote control. It not only displaces the skill of the operator; it eliminates the man altogether. Another device coming into use, called the 'semagraph' is also deadly. The linotype is operated automatically by special coded copy typed on a motor-driven typewriter, with special coded dots underneath the standard characters. A photoelectric cell scans the dots and actuates the casting machine.

Technology Is Impartial

In photo-engraving, likewise, skill

is being displaced by technology. The Hovey engraving machine makes zinc or copper engravings without using a camera or chemical etching. A photoelectric cell scans the copy and actuates a cutting tool on the metal plate. A median-sized newspaper cut may be made in about four minutes.

The bindery worker has not been overlooked by technology either.

Automatic and semi-automatic methods are rapidly replacing all hand operations. Not only are folding, stitching and trimming methods becoming more versatile and automatic, but these various processes are being combined into single units.

Hand-fed stitcher feeders, with a production of 30,000 stitched copies each eight hours, can be made to deliver 80,000 copies in the same time by the elimination of hand feeders and the addition of a suction feeder.

Single blade electric trimmers, with a production of 45,000 copies per day, are overshadowed by the automatic trimmers that trim 120,000 copies per day.

The folder-stitcher-trimmer can be operated by one folder attendant and one, or possibly two, joggers on the delivery. Stitcher feeders, stitcher joggers and pilers, trimmer operators and trimmer pilers are not needed. They are free—to look for another job.

Monograph No. 22 carries the point to its limit by stating:

The ultimate development would be the development of a photographic method of printing. This development awaits only

the invention of an adequate method of preparing the negative and an inexpensive sensitizer. If the photo-engraving process were to replace printing as the facsimile machine threatens to replace the teletype system, labor in the printing trades would be almost completely eliminated.

When It Rains, It Pours

The advance of technology in the printing trades is not restricted to the displacement of skill by automatic machinery. It constantly reduces unit labor costs, also. Unit labor costs depend on the factors of hourly earnings and output per man-hour. If hourly earnings advance more than output per man-hour, unit labor costs rise. When the reverse is the case, unit labor costs decline. In the newspaper and periodical branches of the printing industry, average hourly earnings rose 24.4 percent between 1923 and 1935. But output per man-hour rose 45.8 percent. Consequently, unit labor costs in this field declined more than 20 percent.

A study of the period between 1919 and 1936 covering output per man-hour, production, employment and total man-hours used revealed the following: The year 1929 is taken to equal 100. During the period mentioned, output per man-hour rose from 56 to 125; production rose from 51 to 96; total employment rose from 92 to 94; but, the true index of purchasing power, total man-hours of labor used, dropped from 91 to 76.

One more set of figures, and we are finished with the evidence. This record covers the entire field of printing, publishing and allied industries. In 1929 there were 27,200 plants in operation, and employment stood at 356,200. By 1939 the number of plants had declined to 24,900, and employment had declined to 324,500. On the other hand, the total installed horsepower of prime moving engines in the industry rose from 41,000 in 1929 to 54,000 in 1939. Secondary movers, such as electric motors, driven by plant-converted or purchased energy, rose from 650,000 horsepower in 1929 to 764,000 horsepower in 1939. More recent figures show that the industry used 860,000,000 kilowatt-hours of electricity in 1939 and that by 1944 this had risen to 990,000,000 kilowatts. So, the process is still going on.

This data we have quoted came from the Census Bureau, the U. S. Bureau of Labor Statistics, the National Industrial Conference Board, the National Research Project of the WPA and the Federal Power Commission.

Between the Devil and the Deep Blue Sea

There is no use trying to get around the facts, or the implications therein. It just can't be done. Here again, we see the familiar pattern set up by the Great Technology of America. Technocracy has traced this same pattern in most industries. It is evident that the gains made by or-

ganized labor in the printing industry are cancelled out about as fast as they are made by perennial advances in technology. This process places the printing industry worker in a continuously unfavorable bargaining position with employers. Consequently, while organized labor is necessary for the getting of immediate economic benefits and the protection of labor standards, it has no long range solution for the major problems of the printing industry worker.

Fighting the boss is a hand-to-mouth affair. You force something out of him this year, and next year he installs a new mechanism that takes it away from you. The process is like an invisible, indirect tax. It requires some analysis to illustrate. But, it is operating in every industry. Furthermore, its operation cannot be stopped short of wholesale destruction of the industrial structure upon which modern so-called civilization rests. Neither proprietors nor workers are responsible. The trend was set up by the impact of technology. This impact is growing greater as the industrial revolution proceeds along its unidirectional, irreversible course.

Both workers and proprietors are driven by the force of its compulsion. The former to defend and augment his constantly threatened and constantly dwindling total purchasing power; the latter to meet his constantly rising fixed obligations and the competition of business rivals. It's a case of eat or be eaten.

Clang, Clang Goes the Trolley

In the beginning, science begat technology. Then technology begat the industrial revolution. This begat a host of new social problems, which the ancient Price System had never had to contend with before. Here is the fountain head of all the vexing problems of capital, labor and every other minority pressure group in America, including those of the printing industry worker.

It is obvious that no minority group can gain any preferential advantage except at the expense of some other minority group, or of society at large. This is the dog-eat-dog code of the Price System. We lay to ourselves the flattering unction that this type of social system is a civilization. Nay! Not So! The word 'civilization' implies a well-ordered society. The Price System is actually a jungle wherein individuals and minority groups are compelled to climb to eminence over the crushed hopes and aspirations of their fellow men. They planned it that way.

The printing industry worker is jailed inside this Price System jungle, the same as all other Americans. There is absolutely no hope for a permanent solution of his problems within this framework. With the continuing impact of technology, printing processes will become ever more automatic, skills will become ever more simplified, productive ability will mount ever higher and higher, total man-hours of labor will fall lower and lower, and total mass

purchasing power *must* shrink ever smaller.

Because of these factors, the ability to distribute the products of industry will decline to lower and lower levels. A Price System is organized to produce and exchange goods and services for a profit. Any resulting distribution of physical wealth is delimited by the operating rules of the system. Physical wealth cannot be widely distributed by methods of exchange. The two functions are incompatible. Distribution is an accidental by-product of the merchandising exchange which is the true and only function of a Price System. The statistics of income distribution bear this out.

Faint Heart and Fair Lady

The dictum of science is that the only way to produce and distribute physical wealth is by the greatest possible application of technology and by working fewer men fewer hours. Obviously, a Price System cannot do this and carry on exchange for profit. One or the other must yield. We have been forced into the position of being compelled to maintain scarcity in the face of plenty or of going in for a thorough-going reorganization of modern society along engineering lines. Business may sabotage this necessity for a time. It may bury patents, restrict production and organize monopolies. *But technology will out.* It compels a constant rise in the fixed obligations of industry and a constant necessity to

cut the costs of production. In the end we will all be driven to do the hard way what we already know how to do the easy way.

The answer to the problems of the printing industry workers is the same as the answer for all other Americans. It is not to be found in the standard, stumblebum methods of the Price System, nor in any stopgap injections of artificial prosperity, nor in the manipulations of devious political devices. All Americans want better goods and services and more goods and services. All Americans want abundance, distribution, security, leisure, equal opportunity, and physical democracy. These things that humanity has been dreaming about through all the ages are available right now in North America. We have the men, machines, resources and knowledge to put these things into our social inventory, where all citizens may have access to them. Technology will shortly supply the motivating incentive to do the job.

Once upon a time, a printer was only a printer. He engaged in his trade, took his opportunities where he found them, and, like all other Americans, let collective social problems go hang. Now he is a citizen of a technological civilization. His individual problem has become a part of the collective social problem. He will rise or fall as the great mass of his fellow citizens rise or fall. So, it is not correct to call him only a printer any more. He has become one of the human components of America's Great Technology. With this goes a new concept of citizenship, a concept fit for the higher potentialities of the Power Age civilization to be.

Can the printing industry worker measure up to this higher concept? Only time will reveal the answer. But, there is no escape from the fact that the trend of physical events in North America will force a decision upon him, one way or the other. Mr. Printer, wake up!

Investigate Technocracy.

THE SUN SHINES EAST AND THE SUN SHINES WEST

'We have taken considerable satisfaction in the fact that even with more than 10 million persons in the armed forces we have been able to produce goods and services at a rate of nearly \$200 billion a year. This record achievement resulted in part from an expansion of the labor force, *but much more important has been the rise in output per man-hour.*' Amos E. Taylor, director, Bureau of Foreign & Domestic Commerce, U. S. Dept. of Commerce, in a talk in Chicago, Feb. 16, 1945.

The total monetary value of automotive war production for 1944 was 8 percent greater than that of 1943 while employment in 1944 was 2 percent above 1943.—Press release of Council for Automotive War Production.

The cotton textile industry is now spinning 40 percent more cotton on 30 percent fewer spindles than it did 15 years ago. (R. J. Cheatham U.S.D.A. in *Science Digest*, November 1944)

Technology Marches On!

When a Snowball Starts Rolling

By Research Division 8741-1

Steel Production

In 1943 the steel industry employed 626,000 men, who worked 1,397,000,000 man-hours. In 1944 employment decreased by 55,000 to 571,000, and man-hours worked also decreased 13,000,000 hours to 1,384,000,000. But production did not fall. Instead, it rose from 88,837,000 tons in 1943 to 89,576,000 tons in 1944. (*Steel Facts*, February, 1945). Ed. Note: See *Man-Hours and Distribution*, published August, 1936, page 10, third and fourth paragraphs.

Automotive Production

A 500 ton fast traverse press is now in use to rivet fin bulkhead spars for heavy bombers. The press handles two spars at once and places, rivets and tacks 270 rivets in 10 minutes. The press superseded a hand method that required 50 minutes for the same operation. This is an 80 percent reduction in man-hours of labor.

Between the fourth quarter of 1943 and the fourth quarter of 1944 deliveries of war materials to the Armed Forces from the automobile industry rose 11 percent, while employment in the industry dropped 16 percent. (*Automotive War Production*, March, 1945.)

The Ford Willow Run plant producing Liberator bombers reached its peak of employment in June, 1943,

with 43,331 workers on the lines. Peak production, however, came one year later in June, 1944, when 442 bombers were accepted. In the intervening year, while production was rising, employment was declining rapidly. By March, 1945, employment had declined 20,102 from the peak to a total of 23,229. Assembly time on the Liberator wing alone was cut from 5,500 man-hours to 460. (John Jenkins in *Chicago Daily News*, March 21, 1945.) Ed. Note: See *Technocracy Study Course*, published 1934, page 119, paragraphs three and four.

Housing

The United States Steel Corporation has entered the mass production house manufacturing industry. It recently bought control of Gunnison Homes, Inc., located at New Albany, Indiana. There is not a single architect on the staff of Gunnison Homes Inc. Foster Gunnison, president of the company, believes that a designing engineer who spends a year or two studying housing can provide the public with better houses.

Gunnison Homes Inc. has turned out over 2,800 housing units for the government. Production is carried out on the timed flow, conveyor, assembly line system perfected by the automobile industry. 'Raw materials arrive in freight cars at one end of

the plant, and all parts for a complete house, including heating, sink, cabinet units and electrical fixtures, arrive at the other end every 25 minutes.'

Foster Gunnison stated that a six horse power motor recently installed replaced 120 men. An electronic 'trouble shooter' installed in the production manager's office, spots all machinery trouble the instant it happens. Foundations for the houses, basement excavations, wiring, plumbing and an exterior coat of paint, in addition to the two sprayed on at the factory, are supplied by local dealers of the company. Three carpenters and two laborers without any hoisting or special equipment can erect the house. It can be set up in one day and be ready for occupancy in a week. (From stories in the *Chicago Tribune*, November 28, 1944 and January 10, 1945.) Ed. Note: See *Technocracy Study Course*, pages 261, 262 and 263.

Coal Mining

The Velva coal mine (strip mine) at Velva, North Dakota, employs 103 workers and officials and produces 2,000 tons of coal per day. This is an average of 19.5 tons per man per day. (Bureau of Mines release, March 21, 1945.)

Peabody Mine, number eight, at Tovey, Illinois (underground mine), employs 535 men and produces 7,000 tons of coal per day. This is a little better than 11 tons per man per day. (Bureau of Mines release, March 20, 1945.) Ed. Note: See *Technocracy Study Course*, last paragraph, page

114, page 115 and first two paragraphs page 116.

Agriculture

The following quotation is from a bulletin on farm trends published by the College of Agriculture of the University of Wisconsin in March, 1945:

Data for Wisconsin show that in recent years the State has experienced an immense expansion in farm output and during the same time there has been a major decline in farm population. In spite of a substantial reduction in the number of people on farms, the agricultural output has advanced to new high levels. These trends may be expected to continue over a considerable period of time.

The College report listed the following factors as responsible:

1. Favorable weather in recent years.
2. Technological improvements in crops, such as hybrid corn and new types of oats.
3. Mechanization of farm operations. In 1920 Wisconsin had 8,621 tractors. By 1944 the number had increased to 107,634.
4. An eightfold expansion in the use of commercial fertilizer since 1935.
5. War demands for increased output.
6. High prices since the war started.
7. Increased development of agricultural specialization.

In a speech given before the San Antonio, Texas, Manufacturing Association and reported in the *Townsend National Weekly* for January 6, 1945, Sam H. Jones, former Governor of Louisiana had the following to say:

Within two years after the war nine-tenths of the former labor in the cane (sugar) fields will be displaced.—In the rice fields of Texas, Louisiana and Arkansas the new combines permit two persons to do the work of 20. The rice fields will be completely mechanized in two years after the war. ‘One man with mechanized equipment will be able to plant, cultivate and gather 200 acres of cotton. Compare this with the present pattern which requires one family to handle 12 acres.’ When the South completes its farm mechanization—what then?

Ed. Note: See ‘Feed America First’ in *Technocracy*, A-18, page 15.

Buried Patents, etc., Department

Once upon a time a Chicago firm manufactured a small turbine generator. The turbine generated electric power from falling water and was able to furnish enough juice to supply four average-sized houses. The then vice-president Henry A. Wallace saw one of the turbines in use. He recommended it as being highly practical and economical in operation. President Roosevelt had been seeking such a turbine for use at his Hyde Park estate. When Wallace told him about this one, he im-

mediately wrote a letter to the Chicago firm. In reply, he was informed that the company had been bought out by General Electric. Still pursuing the will-o-the-wisp, F. D. R. wrote to General Electric. He was informed that since the consolidation, the low cost, economically operated generator was no longer being manufactured. (Rewritten from the column ‘Inside Washington’ in the *Chicago Sun*, January 23, 1945.) Ed. Note: See ‘A Paper on Patents’ In *Technocracy* A-6.

Social Welfare

Groups of F. B. I. agents in the field are being brought back to national headquarters at Washington, D. C., for special retraining to combat an expected postwar crime wave. J. Edgar Hoover, Director of the Federal Bureau of Investigation, stated recently that “Kidnappings are on the increase. Already we are beginning to receive reports of bank robberies, a number of them have been committed by discharged veterans of World War 2.” Hoover listed three factors pertinent to the expected crime wave: (1) Juvenile delinquency; (2) Economic readjustments of war workers; (3) Veterans with criminal tendencies who have been taught to kill. He said:

The great bulk of the service men will return to the normal way of life, provided plans have been made to provide them an opportunity to earn a living. Without that—we will have chaos. Ed. Note: See ‘The End of Crime’ in *The Technocrat*, October, 1940, page 12.

In the Question Box

By Public Speakers Division 8741-1

Is it not the aim of Technocracy to have Total Conscription a permanent form of operation in America?

H. A. W.

Not at all. The published program of Total Conscription, since the beginning has specified that it is to be for the duration and six months thereafter. Total Conscription is a partial reorganization of our present system of industrial production, and trade and commerce in general, along engineering lines, so as to obtain the maximum efficiency of operation. The purpose in mind is to win the war in the shortest time at the lowest cost, in lives and resources, and also to provide a transitional vehicle into the peacetime postwar period with the minimum social dislocation all around.

Can Total Conscription be introduced without a change of government?

E. R. T.

Yes. In fact, a change of government is not desirable in time of war. Total Conscription can only be installed by the present constitutional government. Anything else would be a fascist imposition, and not Total Conscription.

After the six months of readjustment after the war and Total Conscription is over, what happens, do we just slide back to

the much for the few and nothing for the many?

A. R. S.

That's entirely up to the American people. It is one of the cardinal points of the 'American tradition' that 'all governments derive their just powers from the consent of the governed.' If, after having experienced a period of efficient social operation under Total Conscription, the American people decide to go back to the dog-eat-dog rules of the Price System, it's their privilege. Likewise, it's their own funeral. However, the design of Total Conscription can be used as a bridge toward a higher form of civilization. It is all up to us. Technocracy has not been concealing any aces up its sleeve in regard to the possibilities in Total Conscription. It has been completely frank at all times. The program is, and will be what we make it. What more do we want? Are we upstanding Americans who want to mold our own future and that of our country? Or are we spineless lickspittles, who look up to our 'betters' to do it for us? If we turn out to be the latter, it's a guarantee that we'll get a malignant dose of American fascism in the postwar era.

What would be the result of a good educational system?

H. E. M.

If you mean a scientifically correct, educational system, whereunder

every citizen would be guaranteed a complete education, the results would be beyond our present ability to imagine. One of the outstanding characteristics of Price System methods of operation is the widespread promotion of ignorance and the concomitant inoculation of misinformation. Along technical lines America has a considerable body of correctly educated individuals, perhaps several million. But among this group there is almost a total lack of comprehension of the nature of America's social problem. They are simply not interested. Each one is busy grinding his own axe, furthering his own preferential position. Many a so-called layman has a much better understanding of the overall relation of science and technology to social

problems than the technical specialists have. Nevertheless, it is the technically trained personnel of America who understand how best to operate its industrial mechanism, in order to achieve abundance and security. It is not likely that we can solve our social problems by educational action; but we can solve our educational problems by social action. The necessary social action will be provided by the pressure of physical events. After that has occurred, a 'good' educational system can be set up, not before. After all, you can't expect the triple oligarchy of private enterprise, ecclesiasticism and the political state to (themselves) tear away their own best camouflage, which is widespread popular ignorance and misinformation, can you?

RECORDS DON'T SHOW ALL THE TAKE, EITHER

Landlords make more money under rent control than they did in prewar years. This was the point of a talk delivered by Ivan Carson, Deputy Administrator of the OPA, in charge of rent control, before the American Institute of Banking at Chicago on April 10, 1945. Carson cited surveys made by checking account books of real estate boards, property management organizations and individual property owners in 16 cities. These records show that net operating incomes of apartment houses are 35 percent higher than in 1939. For smaller structures the increase was 50 percent.

'Operating costs remained practically stable in apartment houses from 1939 to 1944 and even sharply declined in the case of small structures.'

'Furthermore, the tight housing market has virtually eliminated vacancy losses which in 1939 amounted to 8 per cent

for small structures and 10 percent for apartments.'

Carson pointed out that the increase was in net operating income before depreciation and interest but pointed out that these factors had even declined during this period. (As reported in the *Chicago Sun*, April 10, 1945.)

'Every now and then they find a bum dead in a flophouse, with \$5,000 or \$6,000 sewed in his greasy underwear. The story is usually good for three or four paragraphs in the newspapers.'

'The American people, collectively, are not unlike such a bum. We live in filthy, substandard holes. . . . Compared with our material resources, the fabled riches of the East would look like the merchandise in a hock shop—yet we are ill-housed.' (Excerpt from an editorial in the *Chicago Daily News*, January 3, 1945.)

Each in His Own Tongue

VOICE OF THE PRICE SYSTEM

Did They Say That?

By Publications Division 8741-1

My whole working philosophy is summed up in a simple rule. If you buy something for a dollar and sell it for a dollar and a quarter, *you can't lose.*

Ex-Secretary of Commerce Jesse Jones (as quoted in *P. M.*, January 23, 1945).

Manufacturers who introduce labor-saving machines are sometimes accused of reducing employment. They should admit the charge, without any apologies. Instead, they frequently make the foolish defense that labor-saving devices create jobs and increase employment. . . . One of the most absurd of the current fallacies is the idea that everyone has the right to a job. . . . Can the government help us? Yes. It can help by leaving us alone.

Extracts from an article by John W. Scoville, economist for the Chrysler Corporation, in *Barron's Weekly*, January 29, 1945.

If law violators and delinquents present in his community are numerous, the citizen of that locality should be alarmed. . . . The citizen can do something about it. The power of the ward committeeman is tremendous. He names judges. HE GIVES

ORDERS TO THE POLICE. He causes the transfer of police captains who do his bidding.

V. W. Peterson, operating director of the Chicago Crime Commission, in his report to its 26th Annual Meeting (as quoted in an editorial in the *Chicago Times*, February 17, 1945).

When I get up to give a speech I have no idea what I am going to say and when I sit down I have no idea what I have said.

U. S. Congressman Sol Bloom (Dem. N. Y.), Chairman of the House Foreign Affairs Committee. (As quoted in *Newsweek*, March 12, 1945.)

The final objective of *industrial research* is the insurance of the continued existence of a business and the maintenance of its profits in a competitive and changing world.

Roland P. Soule, business expert, in the *Arthur D. Little Industrial Bulletin*, October, 1941.

The time has come when the full strength of your association and the strength of your local connections—the suppliers, bankers, and the citizen groups—must be mustered. This combined effort must be directed toward convincing the congress, the press, and the public that once and for all the encroachment of government

in the housing field must be stopped. . . . There is no corner in the American picture where the federal government either directly or by subsidy to local housing authorities may properly enter the housing field by building, owning, or operating public housing projects.

Joseph E. Merrion, President of the National Association of Home Builders (as quoted in a story by Al Chase in the *Chicago Tribune*, March 3, 1945).

We don't need to look at the building industry. It is all right. We don't need to worry about our financing system for homes. It is good. What we do need to look at and worry about are the endless interferences of the bureaucrats, government, and some labor leaders who are misled into foolish actions by their temporary political influence.

Let's reverse the picture. Let's make it profitable to build, then maybe we'll get somewhere. If this doesn't happen, we will not and cannot have a post-war housing boom.

Herbert U. Nelson, executive president of the National Association of Real Estate Boards. (As quoted in a story by Al Chase in the *Chicago Tribune*, January 24, 1945.)

Any dissemination of such information is contrary to the fixed policy of the Chicago Mercantile Exchange. . . . There are grapevines that we don't know about sometimes.

Maurice Mandeville, President of the Chicago Mercantile Exchange, answering an assertion by Representative Taber (Rep. N. Y.) that advance information regarding government sales of eggs had been obtained by Chicago grain and egg speculators, which had netted them millions. (*Chicago Tribune*, March 11, 1945.)

Manufacturers must have a reasonable profit in order to do their duty.

Judge Elbert H. Gary of the U. S. Steel Corporation, in testimony before the Special Senate Committee, investigating the Munitions Industry in 1917.

You must realize that while you've been overseas, the girls at home have been getting experience which makes them much more qualified for the salary you ask.

An executive, in an employment agency, to a Red Cross girl who was seeking employment after returning from 18 months' service overseas. The incident is related in a letter signed 'M. J., New York, N. Y.', which appeared in the column 'Back Talk' in the *Chicago Daily News Newsweek*, March 10, 1945.

It is absolutely unlawful to demand, to defend, or to grant unconditional freedom of thought, of speech, of writing, of worship.

Pope Leo XIII in his Encyclical *Libertas*.

VOICE OF TECHNOLOGY

They Did Say That!

By Publications Division 8741-1

There is a great voice in the

world today, the voice of science and technology. It is a voice heard since ancient times but never until today has it spoken with such authority, have its words been so filled with promise, has it been listened to with such hope. And in no country in the world does the voice speak so eloquently as in our own.

Science and technology have changed and are changing the lives of all men. Not a single aspect of our society but feels their advance. The things we make and use, the food we eat, the clothes we wear, the way we travel and communicate, the houses we build, the way we cure and prevent disease, the way we fight—and the way we shall win—have all been fashioned by science. . . .

The highest goal of science is the welfare of human beings.

Robert P. Patterson, Under-Secretary of War (as quoted in *Chemical and Engineering News*, October 25, 1944).

I am convinced that if all the living force which is hidden in a cubic foot of coal could be employed in an efficient manner to move a machine, we could accomplish by it then the daily labor of 8 or 10 men.

John Bernouilli (1667-1784), distinguished mathematician and teacher, in 1735.

Architecture is said to be a true mirror of the life and social behavior of a period. Too bad for us! Today's street scene is a

symbol of disunity in the figurative meaning of a disrupted and decayed community life.

Walter Gropius, Chairman, Harvard University Department of Architecture, in an article on housing in the *Chicago Sun*, March 2, 1945.

You know in the Senate we still keep the old snuffbox right up there where it's been for more than 80 years, with a fresh supply of snuff, though nobody ever dips into it. And there's a little silver box on each desk. What do you think is in that? Burnt sand that we're supposed to use when we sign our names in ink. Well, our legislative system is about as anachronistic.

U. S. Senator Charles O. Andrews, Florida. (As quoted in *Time*, December 4, 1944.)

There is a record in his (George Washington's) diary which shows that he was thrilled by Rumsey's invention of a boat which he saw moved against the current by the action of that current. *It gave him a new hope for the development of his favorite project, the waterways.*

Michael Pupin, scientist, in his book, *Romance of the Machine*, 1930.

If all farming were done in 5000 acre plots with 10 or 20 bottom gang plows, it would not take many men to raise our food.

C. C. Furnas, Director of Research, Curtiss-Wright Corporation, in his book *The Storehouse of Civilization*, 1939.

Since 1929, our technological

improvements have been so great that today there can be no doubt of our technical ability to provide all our people with a relative abundance of economic goods and services. We are indeed *physically* equipped as a people to move our material civilization far forward. The question is, are we *psychologically* prepared to accept that opportunity? Are we aware, deeply aware, that it is no longer necessary to have large numbers of people living in poverty because of inadequate technical productivity?

Edward G. Olsen, Director, School of Education, Russell Sage College, Troy, N. Y. (In a speech delivered before the Tenth Annual Purdue University Guidance Conference, Lafayette, Indiana, November 10, 1944.)

Lastly, I would address one general admonition to all: that they consider what are the true ends of knowledge, and that they seek it not either for pleasure of the mind, or for contention, or for superiority to others, or for profit, or fame, or power, or for any of these inferior things; but for the benefit and use of life.

Francis Bacon, 1561-1626 A. D.

FORTY ACRES AND A JEEP

A soil-mixture machine, invented by West Virginia's agriculture commissioner, J. B. McLaughlin, is reported to do the work of five common farm machines. Its claimed advantages include:

Preparing seed bed 'twice as good as can be made with existing equipment';

Operating at rate of four acres per day per machine, using the lightest-weight tractor made; at a total cost of \$2.50 per acre;

Replaces the plow, the disc harrow, spike-tooth harrow, cultipacker, and fertilizer-spreader;

Does work of the five other machines in one operation but in one-fifth the time;

Brings ground-moisture to within 1½ inches of surface, optimum for seed germination, but does not lose this vital moisture and dry out topsoil as ordinary plow does, its inventor, an experienced farm manager points out.

So you are going back to the farm after the war? Think again. In a U. S. Department of Agriculture release of September 19, 1944, Secretary of Agriculture Wickard warned sharply 'against any be-

lief that there can be any sizeable back to the land movement after this war. There is every reason to believe that a somewhat smaller, rather than larger, farm labor force will be needed to turn out full production.'

The number of telephones in the U. S. increased from 14,000,000 in 1920 to 23,000,000 in 1940. However, this increase was confined to urban centers, for the number of farms having telephones decreased 39 percent during the same period.— From the report of the Federal Communications Commission on rural telephones, as reported in Bascom N. Timmon's column in the *Chicago Sun*, December 17, 1944.

POLITICS—An agreement among certain men, wholly dogmatic, that ignorance of fact is the best policy.

CLEVER, EH WHAT?

The official headquarters of the Southern Pacific Company, a \$1,800,000,000 railroad corporation, is in a three room white clapboard cottage in the little village (population 34) of Spring Station, Woodford County, Kentucky. The town is about 1,000 miles away from the Southern Pacific's nearest trackage. Annual stockholder's meetings are held in the three room cottage. The road was incorporated in Kentucky to take advantage of low taxes. Among the lowest taxes in Kentucky are those in Woodford County. An enterprising reporter from the *Louisville Courier-Journal* is credited with making the discovery. (As reported in the *Chicago Daily News*, January 30, 1945.

'A prominent business man suggests that the profit incentive 'must be restored,' and that responsibility for this rests with the government. With corporate profits estimated the largest in history, and leading industrial firms last year earning an average net return on total invested capital after enormous reserves for contingencies, postwar, inventory, and what not, of 9.9 percent, it seems fair to ask what this businessman really has in mind in demanding that the profit incentive be restored?'

—Robert P. Vanderpoel, financial editor of the *Chicago Herald-American*, in his daily column of April 20, 1944.

'I opposed the mobilizing of labor unless there was a mobilization of capital, of resources, all man power, money, housing — everything including a work-or-fight clause. I insisted that when they drafted men and women, there should be living wages, decent housing, hygiene, food, transportation, education and care of workers' children. I have favored over the years, as part of our war making machinery, a more rigid, immediate, complete and competent control than any one else has favored on man power, money, taxes, materials, manufacturing, prices and rationing.'—Bernard M. Baruch, as quoted in the *United States News*, January 5, 1944.

Some Technocracy Section addresses in Great Lakes area

7142-1—601-603 Boylston St., Boston, Mass.
8040-2—Box 356, Ambridge, Pa.
8040-3—340 Brighton Ave., Rochester, Pa.
8041-1—1613 East 51st St., Ashtabula, Ohio.
8141-2—314 Superior Ave., Cleveland 14, Ohio.
8141-3—38 South High St., Akron, Ohio.
8141-4—2237 Front St., Cuyahoga Falls, Ohio.
8141-7—501½ Tuscarawas St., Barberton, Ohio.
8141-14—P. O. Box 553, Kent, Ohio.
8141-15—12516 Shaw Ave., Cleveland, Ohio.
8240-1—207 N. Washington St., Galion, Ohio.
R. D. 8242—c/o Arthur C. Clayton, Marine City, R. No. 1, Mich.
R. D. 8242—c/o John Reynolds, St. Clair R. No. 2, Mich.
8341-1—1430 Adams St., Toledo 2, Ohio.
8342-1—9108 Woodward Ave., Detroit, Mich.
8342-2—708 Garland St., Flint 4, Mich.
8342-2—615 Peoples State Bldg., Pontiac, Mich.
8439-1—P. O. Box 81, Station A, Dayton, Ohio.
R. D. 8641—916 E. Corby Blvd., South Bend, Ind.
8741-1—3178 N. Clark St., Chicago 14, Ill.
8743-1—2204 W. Vliet St., Milwaukee 5, Wis.
8844-1—217½ Pine St., Green Bay, Wis.
8844-2—1011 W. College Ave., Appleton, Wis.
8844-3—135 Van St., Neenah, Wis.
9038-1—4518—Delmar Blvd., St. Louis, Mo.
R. D. 9041—2428 13th Ave., Rock Island, Ill.
R. D. 9140—18 N. 5th St., Keokuk, Iowa.
9344-1—112 South 7th St., Minneapolis, Minn.
R. D. 9344—527 Wabasha St., St. Paul 2, Minn.
9439-1—817 Walnut St., Kansas City, Mo.
9648-1—P. O. Box 178, Warren, Minn.
R. D. 9737—4442 Bayley, Wichita 9, Kan.

TECHNOCRACY

NORTH AMERICA'S ONLY SOCIAL DYNAMIC

WHAT?

★ Technocracy is the only North American social movement with a North American program which has become widespread on this continent. It has no affiliation with any other organization, group or association either in North America or elsewhere.

★ The basic unit of Technocracy is the chartered Section consisting of a minimum of 25 members and running up to several hundred.

★ It is not a commercial organization or a political party; it has no financial subsidy or endowment and has no debts. Technocracy is supported entirely by the dues and donations of its own members. The widespread membership activities of Technocracy are performed voluntarily; no royalties, commissions or bonuses are paid, and only a small full-time staff receives subsistence allowances. The annual dues are \$6.00 which are paid by the member to his local Section.

★ Members wear the chromium and vermillion insignia of Technocracy—the Mondad, an ancient generic symbol signifying balance.

WHERE?

★ There are units and members of Technocracy in almost every State in the U. S. and in all Provinces in Canada, and in addition there are members in Alaska, Hawaii, Panama, Puerto Rico and in numerous other places with the Armed Forces.

★ Members of Technocracy are glad to travel many miles to discuss Technocracy's Victory Program with any interested people and Continental Headquarters will be pleased to inform anyone of the location of the nearest Technocracy unit.

WHEN?

★ Technocracy originated in the winter of 1918-1919 when Howard Scott formed a group of scientists, engineers and economists that became known in 1920 as the Technical Alliance—a research organization. In 1933 it was incorporated under the laws of the State of New York as a non-profit, non-political, non-sectarian membership organization. In 1934, Howard Scott, Director-in-Chief, made his first Continental lecture tour which laid the foundations of the present nation-wide membership organization. Since 1934 Technocracy has grown steadily without any spectacular spurts, revivals, collapses or rebirths. This is in spite of the fact that the press has generally 'held the lid' on Technocracy, until early in 1942 when it made the tremendous 'discovery' that Technocracy had been reborn suddenly full-fledged with all its members, headquarters, etc., in full swing!

WHO?

★ Technocracy was built in North America by North Americans. It is composed of North American citizens of all walks of life, Technocracy's membership is a composite of all the occupations, economic levels, races and religions which make up this continent. Membership is open only to North American citizens. Aliens, Asiatics and politicians are not eligible. (By politicians is meant those holding elective political office or active office in any political party.)

★ Doctor, lawyer, storekeeper, farmer, mechanic, teacher, preacher or housewife—as long as you are a patriotic North American—you are welcome in Technocracy.

**Great Lakes Technocrat,
843 Belmont Ave.,
Chicago 14, Illinois**

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It's A Good Trick If You Can Do It



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Victory, without the use for abundance of the powers we have developed for war, would be, indeed, a hollow victory.

Excerpt from a letter by Franklin Delano Roosevelt, written five days before his death, to O. Max Gardner, Chairman of the Advisory board of the Office of War Mobilization and Reconversion. (As reported in the Chicago Times, April 8, 1945.)